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Consumers' Research Bulletin

November 1952

Consumers' Research Bulletin

OFF THE EDITOR'S CHEST

THE ROLE that advertising plays in keeping the American economy operating on a high level is receiving increasing scrutiny from many different groups. It is a matter of concern to advertising spokesmen that their profession is not highly regarded by certain sections of the public. The term "hucksters," which served as the title for a sharply critical novel some years ago and a subsequent motion picture, is a horrid word in the more enlightened advertising circles. One advertising journal takes the position that it is undignified as a characterization of men engaged in a business so large and so important as advertising and that its use should be completely obliterated because it tends to belittle an occupation which the journal would like to see occupy the same position in public esteem as law, medicine, and engineering.

Educators and students are held to be particularly critical of the social value of advertising. As school classes get under way, we at Consumers' Research are frequently asked to supply material for papers and classroom discussions on the subject. It was, however, 10 years ago that we received a request from the debating society of a well-known Eastern university to supply a speaker to take the affirmative side of the question, "Is advertising a social evil?" As we pointed out to our youthful correspondent at the time, advertising is an important part of the mechanism of our economic system and as such can be considered detrimental to society only when it is misused or misapplied. Whether it makes for a higher standard of living and a broader basis of culture for all people, as one of its exponents claims, depends on the product it is selling and the truthful, informative quality of its claims or message. There are those who hold that advertising tends to make people dissatisfied with what they have and sells them things they do not need or can't afford. Whether this observation is true and whether it is economically desirable is a matter of continuing debate.

It must be kept in mind that in the United States the uniquely American assembly-line technique of mass production makes possible an almost infinite variety and abundance of consumers' goods. It is argued that therefore it is necessary to accelerate the purchase of the myriad industrial products by creating new wants and making the prospective customer dissatisfied with what he has. The typical American practice of turning in an old automobile on a new car every year or two is undoubtedly fostered by the sleek pictures of new

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Consumers' Research functions to provide unbiased information on goods bought by ultimate consumers. For their benefit (not for business or industry) and solely with the funds they provide, CR carries on tests and research on a wide variety of goods, materials, and appliances, and publishes the findings in CR Bulletin. Consumers' Research is a non-profit institution, and is organized and operates as a scientific, technical, and educational organization.

Symbols used to indicate sources of data and bases of ratings: **A**—recommended on basis of quality; **AA**—regarded as worthy of highest recommendation; **B**—intermediate with respect to quality; **C**—not recommended on basis of quality; **cr**—information from Consumers' Research's own tests or investigations; **1, 2, 3**—relative prices, **1** being low, **3** high. Note that price and quality are completely differentiated in CR's listings; **a quality judgment is independent of price; 51, 52**—year in which test was made or information obtained or organized by the staff of Consumers' Research.

It will be advantageous if you will, whenever possible, send prompt notice of change of address at least 5 weeks before it is to take effect, accompanying your notice with statement of your old address with name in full. At least a month's notice must be given in any case. This rule, however, regarding long advance notice does not apply to military personnel.

¶*CR will, of course, gladly change addresses for men and women in the services as often as required by changes in station and other circumstances.*

★★★For a brief cumulative index of the 1952 BULLETINS preceding this issue, see page 14.

CONSUMERS' RESEARCH BULLETIN, issued monthly by Consumers' Research, Inc. Editorial and Publication Offices at Washington, N. J. Single copy 30c. Subscription price (12 issues) $3 per year, U.S.A.; Canada and foreign, $3.50. For libraries, schools, and colleges, a special subscription of nine monthly BULLETINS (October-June, inclusive) is available at $2; Canada and foreign, $2.50. ¶Responsibility for all specific statements of fact or opinion at any time made by Consumers' Research lies wholly with the technical director and staff of the organization. Entered as second-class matter November 9, 1934, at the Post Office at Washington, N.J., under the Act of March 3, 1879; additional entry at Easton, Pa. ●● Printed in U.S.A. ●● CONSUMERS' RESEARCH BULLETIN is on file in many school, college, and public libraries and is indexed in Industrial Arts Index and in the Readers' Guide to Periodical Literature. ●● Beginning with the 1949 volume, *microfilm copies of complete volumes* of CONSUMERS' RESEARCH BULLETIN are available (only to regular subscribers to CR BULLETIN) from University Microfilms, 313 North First St., Ann Arbor, Mich.

The Consumers' Observation Post

MAY FINE CHINA BE SAFELY WASHED in an automatic dishwasher, using the special detergents sold for home dishwashers? That question was put to a number of manufacturers of fine dinnerware and china with very interesting results. Several companies which have done considerable research on the subject recommend that the temperature of the water be no higher than 150°F, although one manufacturer reported that water up to 180°F had no adverse effect. Two detergents recommended as safe by one manufacturer were Chat and Calgon. The comment was made without identifying them that some detergents show a tendency to discolor or dull the decoration on dishes, although one company suggested that the only harm to its china would come from use of excessive amounts of detergents. Several warned against putting dishes, particularly those with gold trim, against metal racks. They reported that the gold trim is removed, and the metal leaves markings in some cases. Racks for dishes should be coated with rubber or plastic, advise china manufacturers. Underglaze decorations were claimed to be more resistant to potential damage than overglaze, although it was noted that there are some highly resistant overglaze decorations.

* * *

HOW MANY MILES PER GALLON OF GASOLINE can be obtained by passenger cars on different types of road surfaces has been studied by engineers for many years. In an interesting report before a state highway group, Professor Ralph A. Moyer, University of California, Berkeley, pointed out that in road tests made in Iowa in 1934 there was little difference in mileage of test cars on various types of paved surfaces. Nearly 10 years later in extensive tests made in Kansas the results were essentially the same. The average mileage, at the average speed of 43 miles per hour, on concrete roads was 19 miles to the gallon, and on various asphalt-treated and road-mix surfaces, it was 18.6 miles per gallon. On smooth gravel roads, the mileage was 17 miles per gallon; on loose gravel, 14 miles; on soft wet gravel, 11 miles; and on barely passable mud, 7 miles per gallon. In the light of these figures, and the greater comfort of driving on smooth roads, it is quite obvious why motorists concentrate their travel on the main concrete highways.

* * *

PEANUTS AND PEANUT BUTTER are losing their popularity because of artificially high prices. That's the conclusion drawn by a peanut trade association from figures put out by the U.S. Department of Agriculture which show a 39 percent drop in the amount of peanuts used in candy in a five-year period. The decline in peanut butter consumption was 18 percent. The heavy government subsidy of peanuts is held responsible. Many taxpayers are apparently unwilling to pay twice for the peanuts; first for subsidies to keep prices high and then for the product itself at high prices in the grocery store. One trade journal recently pointed out that more than 10 million dollars of tax money is authorized to be spent in California and Oklahoma alone for the building of large storage structures for surplus peanuts, to keep them off the market, and their prices high.

* * *

FLUORIDATED DRINKING WATER IS STILL being widely advocated by those who hold that all of us must be subjected to a government-imposed health regimen whether we want it or not. If the city fathers in many parts of the country are persuaded to adopt compulsory fluoridation of their city's water supply, no doubt at least one good local restaurant will adopt the policy outlined by Henry L. Prestholdt, president of the Monite Waterproof

Glue Co., Minneapolis. Mr. Prestholdt prophesies that where a restaurant can obtain good artesian well water by drilling its own well it will draw a considerable number of customers from its competitors by placing a sign in its window that it serves water free from fluorine and that all its food has been cooked with such water. "It is obvious," points out Mr. Prestholdt, "that such concerns would have a distinct advantage over their competitors obliged to use city water [that has been fluoridated]."

* * *

WHETHER A WOMAN IS UNPLEASANTLY SENSITIVE to some particular cosmetic can theoretically be determined at home by the patch test or other method for which directions are sometimes given on the package. The preliminary tests that people make themselves do not always work, apparently, for Dr. Norman R. Goldsmith, Lancaster, Pa., points out in a medical journal that a test on a normal body will be negative, but that after exposure to the suspected substance there is a period during which sensitization develops, and, if the test is made a week or so later, the same test may be positive. He cites as an example the woman who makes an allergy test with an aniline hair dye and obtains no reaction, but when she uses the product two or three weeks later, suffers from a severe dermatitis if she is sensitive to one of the aniline dyes in it.

* * *

HOME FOOD FREEZERS should be defrosted twice to four times a year or when the frost reaches a depth of 1/8 to 1/4 inches, according to one manufacturer. The amount of defrosting required varies with the climate and in any event there is likely to be no harmful effect on the food from allowing frost to accumulate on the walls even to the extent of one and a half inches (provided the controls are set lower to keep the temperature down to its proper value). It is generally agreed, however, that the efficiency in operation of the freezer will be improved a little (perhaps 10 to 20 cents a month) by keeping the thickness of the frost to a minimum.

* * *

COTTON FABRICS, woven and treated to resemble wool, show signs of becoming fashionable for fall and early winter dresses. The high price of wool and the more-than-adequate heating systems of most city apartments and offices give cotton several advantages. Add the new "crease resistant" finishes which prevent a cotton dress from looking as if it had been slept in after it has been worn once or twice plus the feature of being washable at home and it is obvious why the winter cottons give both rayon and wool stiff competition in the women's dress field. In fairness to the last two fibers, it may be noted that some women have found that some of their best cottons are not successfully washed, and keep a new appearance longer if dry cleaned.

* * *

CHRISTMAS TOYS are expected to carry lower price tags this year. Top bracket items like toy trains, chemistry sets, and some expensive dolls have been marked down as much as 20 percent in particular cases, reported The Wall Street Journal after the last Toy Fair. Not only have some prices been cut, but smart toy makers are bringing out new lines of lower-priced wares. Dealers are working for still lower prices, noting that customers who bought $4 items last year are now looking for toys at $2.50. The popularity of science fiction is shown in the demand for toy rocket ships, anti-gravity pistols, and space suits.

* * *

IRRITATIONS OF THE FEET are sometimes caused by allergic reactions to portions of the shoes worn. In a study of 24 patients suffering from dermatitis of the feet caused by shoes, Irvin H. Blank, Ph. D., and Dr. Owen G. Miller, Boston, reported that a large majority showed sensitivity to the cloth linings of their shoes. The published report of this study in the Journal of the American Medical Association noted that these linings

(The continuation of this section is on page 33)

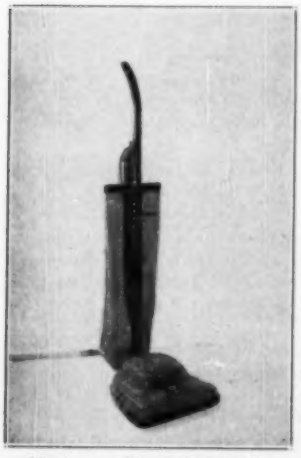
Vacuum Cleaners

JUST WHAT does the average housewife expect from a vacuum cleaner? Without doubt, her primary reason for using a cleaner is to lighten the work load by doing an efficient job of cleaning the home in a minimum of time. During the '30's, the principal and oftimes the only use for a vacuum cleaner in the home concerned the cleaning of rugs and carpets; the upright cleaner, either with or without a revolving brush, was used almost universally; the *Electrolux*, a tank or cylinder vacuum cleaner, had few competitors at that time.

Advertising and home demonstrations by high-pressure salesmen have changed the sales picture considerably, however, and it is possible that now sales of the tank or cylinder cleaners exceed those of the upright kind with revolving brush.

The home-cleaning habits of the housewife are changing, and it is likely that she is making more and better use of the attachments to her vacuum cleaner. The tank type is likely to be used more often for general over-all home cleaning than the upright cleaner with its revolving brush, which is especially suited for the cleaning of rugs and carpets. Experience, and a comparatively recent study made by one of the manufacturers indicates that attachments for the tank cleaners are used far more than attachments available for use with upright vacuum cleaners. The element of greater portability, characteristic of the tank cleaner, is a probable reason for this difference in homemakers' practices, since essentially the same attachments are available for and usable with both types.

As to which kind of cleaner to purchase, choice as to type should in many cases be left to the user's personal preference; individual features of a particular cleaner are often a determining factor. The dirt-removing ability of a particular cleaner is something which the buyer is unable to evaluate with any degree of reliability until the purchase has been made, and it is then too late to make a change. CR determines the dirt-



Montgomery Ward 25SP-492A

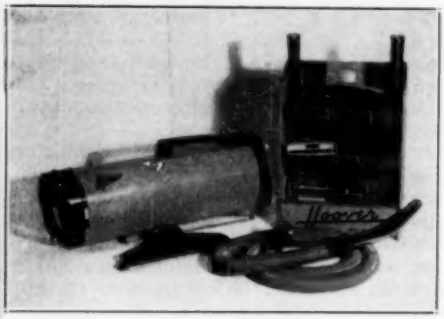
Eureka 250

Cadillac 143 A

removing ability of each cleaner on a comparative basis, and from its findings one can choose a good upright or cylinder cleaner depending on personal preference for a given type, or the adaptability of a given type to the needs of a particular household; certain advantages and disadvantages of the tank and upright cleaners are discussed in later paragraphs of this article. It should be noted here, however, that in CR's most recent series of tests, the upright cleaners with revolving brush were in general better than the tank cleaners in respect to their ability to remove dirt quickly from rugs and carpets. These tests were similar in method to CR's previous tests but changed in some respects to distinguish more clearly between cleaners removing dirt from rugs rapidly or more slowly.

There are several points the housewife should

General Electric AVF-807



Hoover Acro-Dyne 51

Universal Jet 99

bear in mind when purchasing a vacuum cleaner. Weight is important since the cleaner, particularly the tank type, will have to be lifted and carried from room to room. The five tank cleaners tested were on the average 30 percent heavier than the upright cleaners. Each of the tank cleaners, however, had a well placed handle which more than compensated for the difference in weight in so far as ease of carrying was concerned. On the *General Electric AVC-815*, the two clamps which held the top section of the cleaner to the bottom were poorly designed and on two occasions during the tests allowed the two parts to separate when the cleaner was lifted. It was considered that this condition would likely get worse as the clamps wore, in use. The carrying handles on the *Compact*, *Hoover 51*, *Lewyt 55*, and *Universal Jet 99* were all satisfactory, although the edges on the *Universal* handle would have been greatly improved by rounding of edges.

One feature in which the tank cleaner excels is the ease with which it can clean under chairs, beds, and other articles of furniture, which must be moved in many cases when an upright cleaner is used. In the group tested, the clearances needed varied from about 3 inches for the tank type to something between 6 and 8 inches for the uprights.

A nuisance to the housewife is the need with many cleaners to empty the bag or dirt collector in the cellar or out-of-doors so that the dust kicked up during the operation is not redeposited in the living quarters. Several manufacturers now supply disposable paper bags which fit inside the

Kenmore 116.719

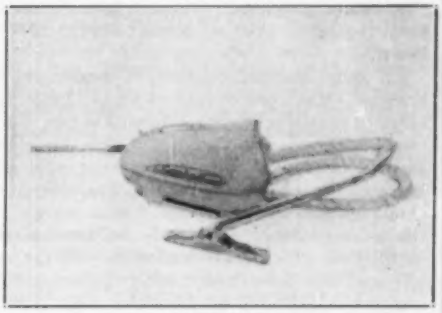
cloth dirt-collecting bag and are merely removed and thrown out when emptying the cleaner. The *Universal, Lewyt, Compact,* and *General Electric AVC-815,* of the cleaners tested, were equipped with this very desirable though, in some instances, expensive feature. (Expensive in that, for the *Universal Jet 99,* for example, four of the paper bags cost $1.)

Several subscribers have complained that the metal from the polished aluminum wand sections of some tank cleaners rubs off on the hands. Others have indicated that the aluminum nozzles on their cleaners gradually impart a smudged appearance to light-colored rugs, particularly those of pastel shades. The nozzles of the *Compact, General Electric AVF-807,* and *Kenmore 116.719* were found somewhat less desirable in this respect, and the housewife having rugs of light shades would be well advised not to purchase a cleaner with an aluminum suction nozzle. The wand sections of the tank cleaners were all constructed of steel tubing except the *General Electric AVC-815,* which utilized aluminum tubing with a protective finish. None of those examined showed any tendency to rub off on the hands.

Designers of some upright cleaners could well spend more time on the method used to attach and adjust the cleaner handle. The spring of the spring-loaded roller used on the *Cadillac* to position the handle was considered too strong; considerable effort and some leverage was required to set the handle in the low position necessary for cleaning under furniture. On the *Kenmore,* it was necessary to twist the handle a small amount to change its position, and while the arrangement was convenient in that it could be done by the hand of the operator, it was also exasperating to the user at times since it didn't always release, or might be in the released position unknowingly when not desired. The arrangements used on the *General Electric AVF-807, Eureka 250,* and *Montgomery Ward 492A* were considered preferable overall.

The control switches on all the cleaners were conveniently located; those on the tank cleaners were easily operated by the foot, those on the upright cleaners were convenient to the operator's hand. On the *Cadillac,* additional hand switches which controlled motor speed and the nozzle light were located on the housing.

Efficient operation of an upright cleaner is dependent to a considerable extent upon correct adjustment of the nozzle height relative to the rug, and most cleaners provide means for varying this distance. This adjustment was claimed to be automatic on the *General Electric AVF-807*



Compact C-2

Lewyt 55

General Electric AVC-815

and the *Kenmore 116.719*, certainly an advantage. In the case of the *GE*, however, highly variable results in amount of dirt removed in a given time in the dirt-removing tests indicated that the self-adjusting feature did not perform well. An authorized service representative found nothing out of order or adjustment in the automatic device. It is also important that the revolving brush be adjusted as it wears so that it does come in contact to the correct amount with the rug being cleaned. Manufacturers' instructions regarding this adjustment should be followed.

On some upright cleaners, a double set of brushes is used, one to remove surface litter, the other to impart a beating action. On two of the cleaners tested, the *Eureka 250* and the *Montgomery Ward 492A*, the brushes were quite stiff and considerable wear of rug nap was noticeable. One tank cleaner, the *Lewyt*, had a "comb" in the nozzle which, apparently because of the method of attachment, tended to pull the rug pile and was thus unnecessarily damaging to a rug as was indicated by the higher than average amount of nap removed during the dirt-removing tests. Generally, however, the straight-suction cleaner will be preferable in this respect although it has the disadvantage that it lacks the beating action imparted by the revolving brush. The revolving brush tends to dislodge dirt particles from the base of the nap, and so remove them, particles which may not be removed by the straight-suction cleaner.

CR's test procedures were in general similar to those used previously. Some changes were made, however, particularly in the test rugs which were used for determining dirt-removing ability. Previously test runs were made on low-, medium-, and high-pile rugs. Since an analysis of the previous results did not indicate that certain cleaners were more advantageous than others for rugs of certain pile heights, it was decided that for this series of tests Velvet, Wilton, and Axminster woolen rugs of medium quality and height of pile would be used. A cotton rug of Wilton weave was also included. The time spent in cleaning each rug sample was also reduced considerably as compared to the previous time used so as to be in better agreement with the time the average housewife would take in regular cleaning of her rugs. While it is likely true that a good tank cleaner will clean a rug about as thoroughly as a good upright cleaner, if used for a much longer time, the present test procedures showed a considerable difference between the two types, in general, possibly because the cleaning time on the test rugs was much shortened as compared with earlier studies. The usual tests and measurements for leakage current, insulation resistance, breakdown of electrical parts under high voltage, power input, noise, as well as an engineering examination were also made. It was CR's intention to evaluate the various attachments which were available for each cleaner, but comparison of these showed that they were quite similar in design and use, and it was felt that little useful information would be obtained by testing them. In the listings following, measured power input in watts is followed in parentheses by the rated input. None of the cleaners failed in the high-voltage breakdown test. Ratings are based upon a general over-all evaluation of the features of the cleaner, with dirt-removing ability the primary consideration.

A. Recommended

Montgomery Ward, Model 25SP-492A (Montgomery Ward & Co., Chicago) $65 at retail store; attachments $17 extra. This cleaner is essentially the same as the *Eureka 250*, and the reader should refer to that listing for remarks concerning the different physical characteristics. Watts input, 420 (350). Weight, 15.6 lb. No instructions for lubrication. Dirt-removing ability, very good. Comparatively noisy during operation. Radio interference, excessive; television interference, moderate. Leakage current, a measure of shock hazard, negligible. 1

Eureka, Model 250 (Eureka Div., Eureka Williams Corp., Bloomington, Ill.) $90; attachments $22 extra. Upright cleaner with revolving brush. Watts input, 405 (350). 2-speed motor. Weight, 16.1 lb. Cloth bag dirt collector. Nozzle adjustment, simple, but considered inconvenient to use. Revolving brush adjustable for wear. Belt easily replaced. Instructions state motor bearings should be repacked every 3 or 4 yr., but *only by an authorized Eureka Service Station*. Cord length, 20 ft. Distance from floor to top of motor housing, 6 in., relatively low, desirable. Dirt-removing ability, very good. Comparatively noisy during operation. Radio interference, excessive; television interference, moderate.

Leakage current, a measure of shock hazard, negligible. This cleaner would be rated *C. Not Recommended* for use on expensive Oriental rugs because of the excessive wear it caused on the nap of the rug. **3**

B. Intermediate

Cadillac, Model 143 A (Clements Mfg. Co., 6650 S. Narragansett Ave., Chicago) $65; attachments extra. Upright cleaner with revolving brush. Watts input, 260 (300). 2-speed motor. Weight, 16.1 lb. Cloth bag dirt collector. Thumbscrew adjustment for nozzle height, accessible and easy to operate. Revolving brush adjustable for wear. Belt easily replaced. Instructions state that oiling is not required. Cord length, 20 ft. Distance from floor to top of motor housing, 8 in. Switch on handle turns motor on and off; hand switch on motor housing offers slow and fast motor speed. Dirt-removing ability, fair. Radio interference, excessive; television interference, moderate. Noisiest of cleaners tested. Leakage current, 0.4 ma., satisfactorily low. **1**

Hoover, Model 51 (The Hoover Co., N. Canton, Ohio) $89, including attachments. Tank-type cleaner. Watts input, 405 (455). Weight, 21.5 lb. Cloth bag dirt collector readily emptied without removal from cleaner, desirable. No instructions for lubrication. Cord length, 18.3 ft. Air is discharged through single hole in end of housing; as on the *Compact*, the air stream is strong, which is undesirable. Tank rests on 2 steel runners on bottom of tank which also serve as storage rack for electric cord, a desirable arrangement. Dirt-removing ability, fair. Comparatively quiet during operation. Radio and television interference, both excessive. Leakage current, negligible. **2**

Kenmore, Model 116.719 (Sears, Roebuck & Co., Chicago) $74.25 at retail store; attachments $20 extra. Upright cleaner with revolving brush. Watts input, 425 (110-120 volts, 4.8 amperes). Weight, 17.8 lb. Cloth bag dirt collector. Nozzle adjustment, simple, and related the nozzle automatically to height and density of rug pile. Instructions say "oil-sealed for life." Cord length, 20.5 ft. Distance from floor to top of motor housing, 7.3 in., slightly above average. Belt was considered difficult to replace but was guarded and not in air stream; should be an advantage with regard to belt wear. Dirt-removing ability, good. Comparatively noisy during operation. Radio interference, excessive; television interference, moderate. Leakage current, 0.3 ma., satisfactorily low. **2**

Universal, Jet 99, Model VC 6710 (Landers, Frary & Clark, New Britain, Conn.) $100, including attachments. Tank-type cleaner. Watts input, 670 (6 amperes at 115 volts). Weight, 24.8 lb. Disposable paper bag dirt collector, an advantage; paper bags cost 25c each. Instructions state that no oiling is required. Cord length, 20 ft. As air is discharged through vents in sides of cleaner, there is no concentrated air stream or blast. Cleaner rests on 4 projections on base at corners of "tank" and so does not tip easily. No provision for storing separate electric cord, but this is not considered necessary on this cleaner. Dirt-removing ability, fair. Comparatively quiet during operation. Radio interference, excessive; television interference, moderate. Leakage current, 0.5 ma., satisfactorily low. **3**

Compact, Model C-2 (Interstate Eng. Corp., El Segundo, Calif.) $120, including attachments. Tank-type cleaner. Watts input, 630 (540). Weight, 17.9 lb. Cloth bag dirt collector; disposable bags optional. Prelubricated, ball-bearing motor. Cord length, 19.4 ft. Air was discharged in form of strong stream, which many will dislike since it tends to stir up dust in the room being cleaned. 2 wheels and 2 knobs on base of cleaner provided good maneuverability. No tendency to tip when hose is pulled to move cleaner. Lacked provision for storage of electric cord. Dirt-removing ability, fairly good. Comparatively noisy during operation. Radio interference, excessive; television interference, moderate. Leakage current, negligible. ¶According to the manufacturer, this cleaner is also sold in some areas under the name of *Revelation*. **3**

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The following vacuum cleaners, while rated *B. Intermediate*, were not considered overall the equal of those preceding.

Lewyt, Model 55 (Lewyt Corp., 60 Broadway, Brooklyn 11, N.Y.) $90, including attachments. Tank-type cleaner. Watts input, 470 (575). Weight, 22.1 lb. Dirt collected in disposable paper bag (17c each), an advantage. Instructions state that no oiling is required. Cord length, 20.3 ft. As air is discharged around periphery near top of machine, there was no concentrated air stream or blast. Tank rests on 2 runners which are a part of the bottom of the canister. No provision for storage of electric cord. Dirt-removing ability, fair. Was comparatively quiet during operation. Radio interference, slight; television interference, least of all cleaners tested. Leakage current, 0.3 ma., satisfactorily low. Because of excessive wear on rug nap, would be rated *C. Not Recommended* for use on expensive Oriental rugs. **2**

General Electric, Model AVC-815 (General Electric Co., Bridgeport 2, Conn.) $100, including attachments. Tank-type cleaner. Watts input, 690 (600). Weight, 21.4 lb. Disposable paper bag dirt collector, an advantage. Instructions say that motor never needs oiling. Cord length, 19.5 ft. As air is discharged through slot around perimeter of cleaner, there is no concentrated air stream or blast. Tank or canister rests on 8 small projections on bottom; while it would have to be picked up to be moved along a rug, the swivel-top connection for the suction hose helps to minimize the amount of tank movement necessary, which is desirable, but see text regarding comments on clamping arrangement. No provision for storage of electric cord; cord permanently attached. Dirt-removing ability, fair. Comparatively quiet during operation. Radio interference, slight; television interference, excessive — poorest of all cleaners in this respect. Leakage current, 0.4 ma., satisfactorily low. **3**

C. Not Recommended

General Electric, Model AVF-807 (General Electric Co.) $90; attachments $15 extra. Upright cleaner with revolving brush. Watts input, 360 (370). 2-speed motor. Weight, 17.3 lb. Cloth bag dirt collector. Nozzle adjustment claimed to be automatic, but extremely variable results in dirt-removing ability during CR's tests, even after cleaner had been inspected by a G.E. service representative, indicated the device was not so desirable as the adjustment of nozzle height provided on some other makes. Belt easily replaced. Instructions state motor "has sealed-in lubrication; you *never* need to oil it." Cord length, 21.7 ft. Distance from floor to top of motor housing, 6.5 in., about average. Dirt-removing ability, good, but subject to considerable variation, as noted. Comparatively noisy during operation. Radio interference, excessive; television interference, moderate. Leakage current, 0.2 ma., satisfactorily low. Because this cleaner caused more than the usual amount of wear on the nap of a rug, it would not be considered desirable for use on expensive Oriental rugs. 3

Plastic Storm Windows

STORM WINDOWS have the obvious advantage of reducing fuel consumption through a material reduction of the amount of heat lost through the window by radiation and conduction through the glass and by reducing the infiltration of cold air or loss of heated air around the sash. For the home owner, the cost of providing storm windows made of glass is a sound investment since the saving in fuel over a reasonable period of years will more than equal the initial expense. In addition to a saving of as much as 20 percent in fuel, the advantages include increased comfort, especially when sitting near the windows; less annoyance from noises outside; and a great reduction of condensation on the windows in all but the most severe weather. The family that rents a home and must provide its own heat, however, hesitates to pay from $5 to $40 per storm window unless there is some assurance that the total fuel savings over a very few years will at least equal the initial expenditure.

It is possible now to purchase transparent plastic sheet material in houseware and department stores, with a set of narrow cardboard framing strips which, when tacked either directly to the window frame or to a window screen frame or to a simple special frame made for the purpose, serves as an effective substitute for a storm window, for at least one season's use. The use of a special light wood frame to hold the plastic sheet has the advantage that the unit can be removed and replaced as often as desired without destroying the plastic sheet. This type of storm window will provide ample protection from the outside winter cold and wind, provided the sheet is securely fastened to prevent excessive flapping and eventual tearing in wind and weather. Unlike glass, however, the plastic material will deteriorate, and, after one or a few winters' use, depending on its condition when examined visually and with the fingers, it should be replaced with new material so as to avoid risking possible tearing in the wind and consequently loss of protection during severe weather. A further disadvantage, one which many may find objectionable, is the increased cloudy appearance taken on by the sheet after it is in use for only a short time. As this cloudiness, present to some extent at the start, increases, there is a corresponding decrease in the amount of light entering the window, and of the visibility of things outside.

In view of the limitations mentioned of the plastic material and the approximate cost of $1 for the plastic sheet for each window so protected, glass storm windows would seem to be the better choice, unless only a temporary expedient is needed.

CR has found that plastic sheets reinforced with a network of cotton or plastic thread, or wire, though likewise objectionable because of the tendency (though a lesser one) toward a cloudy appearance and limited visibility of objects seen through the sheets, will give longer service than does the plain plastic material without reinforcement. The reinforcement minimizes the tendency to tear and crack, especially at very low temperatures. One manufacturer of reinforced plastic material is Warp Bros., Thomas and Cicero Aves., Chicago, and their products are widely sold in hardware stores, which may stock several grades and types of the material.

Snow Removal Appliances

Report on Limited Tests of Four

LAST WINTER a good many subscribers asked for information on snow plows suitable for clearing paths and driveways around the home. Limited tests were made on two blade-type plows sold as attachments to garden tractors, and two rotary impeller snow removers. One of these, the *Jari*, was so designed that it could be converted to a sickle-bar mowing machine for about $30; the other, *Sensation Snow-Blo*, was designed for use as a snow remover only. We believe that, unless the purchaser has extensive use for a snow plow, or must use one to avoid excessive exertion possibly endangering health, the purchase of an expensive single-purpose unit will not be justified.

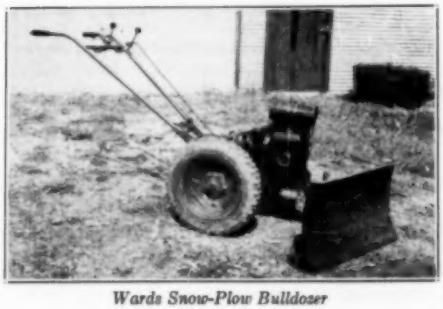
Tests were made by removing snow from sidewalks, driveways, and streets both on the level and on a 5 to 7 percent grade. The main comparison tests were run on a large parking area, measured off into four parts. The time required to clear one of these equal areas by each snow plow was measured. Tests were also made on turf, for the benefit of those who may want to use the appliance for removing snow beneath a clothes line to facilitate hanging of clothes in winter.

Unfortunately, there were no deep or heavy wet snows in the locality last winter, and all tests therefore had to be made on snowfalls of 6 inches or less. The blade-type plows proved to be the best on such snow, but it is believed that on heavier snowfalls of light snow the impeller or blower type would possibly give better performance relatively than on the lighter snowfalls. In general, blower or rotary units will not be satisfactory on heavy or wet snow, and some manufacturers of such units recommend that a blade attachment be used on their appliances when wet heavy snow is to be handled.

Blade Type

B. Intermediate

Wards Snow-Plow Bulldozer (Montgomery Ward's Cat. No. 87—5632; also sold by Simplicity Mfg. Co., Port Washington, Wis.) $19.25, plus freight. Blade-type plow to be attached to Montgomery Ward's *Hoe-Trac, Chor-Trac,* or *Plow-Trac* garden tractors, or *Simplicity Model L-1,* 2 hp. garden tractor. Tests were made with 1½ hp. *Hoe-Trac.* Width of blade, 30 in.; depth, 16¾ in.; attached to front of tractor by four wing nuts. The blade was adjustable to three positions, straight across and approximately 30° on each side of a line perpendicular to the line of travel; had reinforcement on bottom (designed to be replaced when worn) and had three 6-in. glider feet to make blade ride smoothly on uneven surfaces. Ease of handling, very good. Unit appeared to be about right size for general snow removal in city areas. Condition of cleared surface on both concrete



Wards Snow-Plow Bulldozer

Sears Snow-Plow Bulldozer

Jari, Jr. Rotary Snow Plow

Sensation Snow-Blo

and grass was good. Some slipping of tractor wheels and sliding of tractor to one side on slight upgrade, but this would probably have been eliminated by use of tire chains and wheel weights obtainable from the manufacturer for bolting on to the wheels. In low gear, speed was about correct for average person's gait. Time required to clear measured area (approximately 5000 sq. ft.), 38 minutes.

C. Not Recommended

Sears Snow-Plow Bulldozer (Sears-Roebuck's Cat. No. 32—5238) $17, plus freight. Blade type, to be attached to *David Bradley* 1½, 1¾, or 2¼ hp. garden tractor, also sold by Sears. Tests were made with 1½ hp. model. Width of blade, 40 in.; depth, 17 in.; attached to frame of tractor by four nuts and a pin. Blade adjustable to three positions, straight across and approximately 45° on each side. Lower edge of blade designed to be replaced when worn. Ease of handling, only fair; it was difficult to make 180° turn on 5-ft. sidewalk: tractor (which has large wheels — 6.00 x 16) with plow was judged much too large for average home sidewalk use. Lack of glider feet caused blade to drop in cracks in pavement, causing a severe jerk to tractor and slipping of tractor wheels. Condition of cleared surface: on concrete, good; on turf, for example at edge of sidewalk, only fair (unless extreme care was exercised, blade would gouge out grass). Speed was about correct for average person's gait. Time required to clear measured area, 30 minutes. Might warrant a *B* rating where large areas and wide walks are to be cleared.

Rotary Type

C. Not Recommended

Jari, Jr. Rotary Snow Plow (Jari Products, Inc., Minneapolis 8) $170. Sickle-bar mower attachment, $30 extra. Width of scoop, 16 in. Sides extend up 8 in. Had 4 impeller blades. A cross bar with eight 5/16 x 1 in. rods was bolted across two of the blades to break up the large pieces. Snow discharge spout, adjustable to a limited extent, fixed to throw snow from right-hand side of machine only. Unit had two wheels, 10-in. diameter by 1¾ in. wide, with hard rubber tires. Two speed ratios obtained by changing V belt on stepped pulleys. Clutch consists of a belt tightener for fan, and drive sprocket which engages wheel treads. Engine: single-cylinder, 4-cycle *Briggs & Stratton*, 1.2 hp. at 2200 revolutions per minute, 1.6 hp. at 3200 rpm. Ease of handling, very good, but handles considered too low for an operator of average height. Drive wheels, which were small, did not have sufficient traction; belts also slipped when wet with snow. Snow was blown out an average distance of 3 ft., which was enough to clear a good swath, but some snow was blown on operator. Sample tested did not have enough power for snow over 5 in.; deeper snow caused engine to slow down. Condition of cleared surface on concrete, fair; left about 1/16-in. snow on top, but on turf, the grass surface was gouged. Speed, too slow (about 1 mile per hour). Time required to clear measured area, 70 minutes.

Sensation Snow-Blo, Model SP-16-5 (Sensation Mower, Inc., Ralston, Neb.) $259.50. Width of scoop, 16 in. Sides extend up 11 in. Had 4-blade impeller, and adjustable snow discharge spout which could be regulated to throw snow on either side of machine; impeller is driven by V belt from engine pulley. Unit had 2 "semi-pneumatic" tired wheels, 10 in. x 2½ in., driven through worm wheel and roller chain. Engine: single-cylinder, 4-cycle *Cushman Husky*, 2.2 hp. at 1600 rpm., 4.5 at 3200 rpm. Ease of handling, good, but wheels, of small diameter, slipped under load. Snow was blown out for 7 ft. on left side, but only for 1 to 2 ft. when spout was turned to right side. The snow which was removed was distributed fairly evenly between the machine and 7 ft. out, making it necessary to start the snow removal from the center of the area to be cleaned and to work out from there. Considerable snow was blown on operator. Condition of cleared surface: on concrete, fair; on turf, good; about ⅛ in. of packed snow was on concrete surface. Speed, too slow (about 1 m.p.h.). Time required to clear measured area, 63 minutes. This is a single-purpose machine; the engine, however, can be removed and used on a 24- or 30-in. power lawn mower chassis sold by the same manufacturer at $220 or $243 (without engine). This model has been discontinued. Present *Model ISB* with larger wheels (of metal lug-type instead of rubber-tired) has not been tested.

Safety Razor Blade Sharpeners

1—Twinplex; 2—Allegro; 3—Ingersoll; 4—Blade Master.

MANY CONSUMERS have perhaps wondered whether safety razor blade sharpeners are useful — really do significantly improve the sharpness of the blade. Consumers' Research can say that the good ones are really quite effective in increasing the life of the blades and giving greater comfort in shaving. Besides, stropping has a usefulness in another way, for if the stropping is done promptly after the blade is used, excess moisture, which was not completely removed by wiping the blade on a towel, will be removed. In this way, the deterioration of the blade which comes from corrosion will be retarded. Razor blades are not all alike when they leave the factory, and the keenness of some new blades may be greatly improved by brief stropping in a stropping device of proper design. Before the war there were a large number of brands of sharpeners, but at the present time the number offered by dealers seems quite limited.

CR obtained four well-known brands of the kind that are sold for use with double-edged blades. They were tested for their effectiveness in improving or maintaining the cutting edges of safety razor blades. This was done by obtaining a quantity of razor blades of known high relative uniformity and good quality. For each stropper a blade was tested in CR's razor-blade tester (see CONSUMERS' RESEARCH BULLETIN, December 1946) to determine its sharpness. The blade was then removed from the machine and sharpened in the stropper following the stropper manufacturer's instructions. The blade was then replaced in the testing device and again tested for sharpness. The results obtained before and after sharpening were compared. In addition to the test which measured the effective increase in sharpness produced by the stropping device, the sharpeners were also examined for general design, convenience in use, and other factors. Practical-use tests were also made in the homes of several male members of CR's staff, each using the strop-pers with his own technique of shaving and his own choice of blades and soap. The results obtained by these several examinations appear in the following ratings.

A. Recommended

Twinplex, Model G200 (Twinplex Mfg. Co., Chicago 13) $2.50. Stropping is accomplished by turning a crank which rotates a pair of leather-covered rollers. The blade position is automatically reversed once for each turn of the crank. The *Twinplex* is well designed, and judged durable and very convenient to use. This make has been marketed for a long time, and experience as well as tests show that it is one of the very best of available sharpeners. **AAI**

Allegro, Model L (Made in Switzerland; distributed by various department stores) $6. Also available are *Model E* for single-edge blades; and *Model DD* for double-edge blades for razors other than *Gillette* and for single-edge blades. Hones and strops, both movements being mechanically well devised and executed. Has two stones for mechanical honing (one having a milder honing effect) as well as a leather surface for stropping. Construction of the

device is such that it is judged to have good durability, but since it is made abroad, the consumer must depend upon the responsibility of the dealer and his willingness to assure servicing of the device free of charge or at small cost. This question should be clearly resolved before a purchase is made, preferably in the form of a written guarantee that servicing will be provided free or at a cost not to exceed a stated moderate or nominal charge. **3**

B. Intermediate

Blade Master (Blade Master, Inc., 315 E. 91 St., New York 28) $1.95. Consists of a small box made of plastic and hinged in the middle. Inside and in contact with the blade are four sets of flat-topped tooth-like strips of some synthetic material. The blade to be sharpened is placed in the box, and the box moved back and forth along a cord; this gives any point on the edge of the blade a circular type of motion. **1**

Ingersoll (Durham-Enders Razor Corp., Mystic, Conn.) $1.25. A very simple device in which the blade is held in a metal carrier that is moved back and forth along a leather strop. Somewhat inconvenient to operate. **1**

Abridged Cumulative Index of Previous 1952 Consumers' Research Bulletins

†indicates that listings of names or brands are included.

Flash Photography

A discussion of flash synchronizers with listing of two electronic flash units

MOST modern cameras have shutters with built-in synchronizers and require only the addition of a simple flash gun, consisting of a battery, battery case, bracket, reflector, and connecting cord (Figure 1) to equip the camera for photography using a flash bulb. The flash bulbs cost about 12 to 24 cents each and are used once and then discarded. The shutter may have *direct synchronization* or *fully adjustable synchronization*. With direct synchronization, the time lag to firing of the bulb from the time the shutter is opened is close to zero, and the user is limited to slow shutter speeds and must use either Class F (fast) or Class M (medium) bulbs.

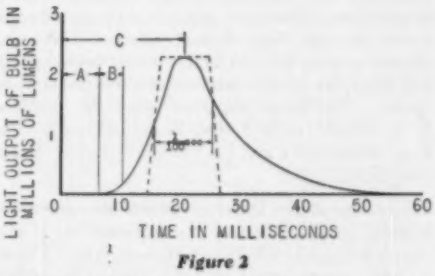


Figure 2

Curve of light output in relation to time shown by heavy black line. The dotted lines show shutter opening at 1/100 second setting.

Figure 1

For proper synchronization the shutter must be fully open when the light intensity is at its peak. Figure 2 shows the characteristics of a typical Class M (medium) flash bulb.

The time A is a variable ranging from approximately 1 to 5 milliseconds or more. Its length depends upon the current flow through the circuit and hence upon the total resistance of the circuit. This will include battery resistance, contact resistances, resistance of leads and of the lamp. The battery resistance, which is dependent upon temperature (at 32°F the current available from a size D battery may fall to 65% of the current available at 70°), may be corrected for by the use of a battery-capacitor system. B is the time required for burning of the primer. C is the time from start of contact to full peak illumination; in this case, about 21 milliseconds. For perfect synchronization the dotted lines representing the shutter opening should straddle the peak of the light curve of the flash bulb.

Class F bulbs, which reach their peak of illumination 0.005 second (5 milliseconds) after

they are fired, provide a flash that is equivalent to about 1/100 second shutter opening. These bulbs are identified by Westinghouse and G.E. as SM, and by Sylvania as SF bulbs. Class M bulbs reach their peak of illumination about 0.020 second (20 milliseconds) after firing; thus Westinghouse or G.E. No. 5 or Sylvania Press 25 bulbs can be used only with 1/25 second or slower shutter speeds, with shutters having direct synchronization. Class S (slow) bulbs reach their peak of illumination 0.03 second (30 milliseconds) after firing.

Some shutters are said to be "fully synchronized," which means that they can be used with both slow and fast shutter speeds. Such a shutter has a lever for adjusting the synchronization to the class of bulb used. When the shutter is released, the lamp circuit is energized, and after the proper interval of time the shutter opens. The lever positions may be marked X, F, and M, or 0, 5, and 20 milliseconds. The X or 0 positions are for use with xenon lamps (electronic flash).

For the older shutters which do not have built-in synchronization, a solenoid or a mechanical-type synchronizer is necessary. These, if inaccurately fitted or too vigorous in action, may damage the delicate parts inside the shutter. A unit which screws into the cable release socket of the shutter (Figure 3) exerts considerable strain on the threads, and a slight bump may even cause the unit to break out of the socket; if this happens, an expensive repair on the casing of the shutter may be required. This type of unit is, therefore, relatively undesirable for use on high-grade equipment. If the unit is fastened to the battery case (Figure 4), the cable release, particularly if long, must be held in just the proper position when the exposure is made; if the cable release follows a different curve or lies in another position, its effective length may be changed slightly, making the synchronization inaccurate. With the solenoid and mechanical units, the proper time delay is achieved by adjusting the length of the plunger travel, by a trial and error method described in the instructions with the synchronizer.

Figure 3

Figure 4

Many of the complaints by amateur photographers who fail to obtain correctly exposed negatives are caused by the fact that their flash outfits were not properly synchronized; this has been found to be due to their failure to use fresh batteries, or because of corrosion of the base of the flash lamp, or because they have used the wrong bulb or too fast a shutter speed with a camera having direct synchronization. Due to decreasing tin content of the solder in the base of flash lamps, corrosion on the surface of the solder occurs more often than formerly. This trouble can be corrected by scraping the tip of the bulb base with a penknife.

Cellux SM

A battery-capacitor system such as the *Kodak B-C Flashpack*, at $2.95, plus $1.05 for battery, takes the place of the "C"-size batteries in standard flash units. The *Flashpack* consists of a 22½-volt battery with series resistor, which charges a capacitor (electrical condenser). The charge on the capacitor is then used to fire the lamp. The rate of charging depends upon the condition of the battery; however, the firing of the lamp is independent of the battery, once the capacitor is fully charged. This type of B-C (battery-capacitor) unit is not adapted to use with solenoid controlled flash equipment because there is no certainty that the instantaneous discharge of the capacitor will be divided in proper proportion between the solenoid and the flash bulb. The *Kodak Ektalux B-C* flash gun, however, can be used with solenoids by use of an additional capacitor, which acts independently to operate the solenoid, while the charge in the first capacitor fires the flash bulb only.

Electronic Flash Guns

These guns use 110-volt a.c., rechargeable, storage batteries, or dry cells. While the storage battery is claimed to be very convenient and economical to maintain, in practice the small storage batteries used in portable equipment are likely to give much trouble and deteriorate rapidly, according to CR's experience with such batteries in portable radio receivers. Possibly, the small storage batteries will be desirable, in an economic sense, only for persons who will make constant and frequent use of their electronic flash guns, say several to many times daily. For ordinary amateur use, the dry-battery-powered flash gun will probably be best.

Because of the danger from stored high voltage, great care should be exercised when opening the case of any electronic flash gun. The unit should be disconnected from the 110-volt line, and the tube fired to reduce the charge on the capacitor.

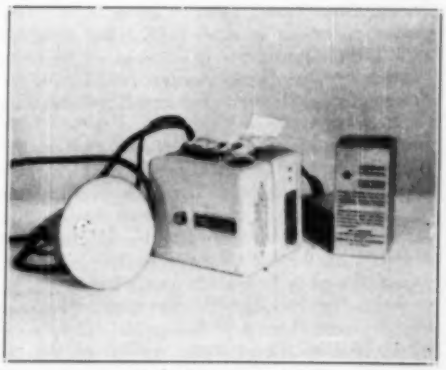
Listings of two electronic flash guns follow.

A. Recommended

Heiland Strobonar 1-A, Model HR-3A (Heiland Research Corp., Denver 9) $97.50. Power pack for battery operation, $51.50 extra. Unit consists of a reflector head, GE FT 110 flash tube claimed by flash gun manufacturer to be good for 10,000 flashes, plastic shield, and a 110-volt a-c power supply with shoulder carrying strap. The battery pack is designed to be bolted on to the a-c power supply. It has two small storage batteries with usual colored charge indicators, which are charged from the 110-volt line. Batteries are shipped dry with the sulfuric acid in a separate bottle to prevent deterioration of the batteries while in stock (desirable). Had neon tube indicator to show when charged and ready for use. The *Strobonar 1-A* has a safety switch which is said to discharge the capacitor when the lid is removed; this is a very desirable safeguard. Unit produced 16 lumen-seconds per square foot at 9 ft. (satisfactory). Effective duration of flash, 0.6 millisecond or about 1/1700 second. Recycling time, 13 seconds. Satisfactorily passed voltage breakdown test. Unit was well designed, well built, and convenient to use. Weight, approximately 3½ lb., plus 4½ lb. for battery power pack.

B. Intermediate

Cellux, Model SM (Cellux Electronic Corp., Boston 19) $110. Unit is designed for use only with battery power pack. Consists of a reflector head, GE FT 110 flash tube claimed by flash gun manufacturer to be good for 10,000 to 50,000 flashes, power pack for battery operation, and separate charger for the storage battery. Battery had usual colored charge indicators, which showed battery only partly charged as



Heiland Strobonar 1-A

received; charging for 27 hr. failed to bring green ball to fully charged position. The *Cellux Model SM* did not have a safety switch to discharge the capacitor; therefore, very great care must be used to insure that the capacitor is fully discharged when the case is opened. This unit should be turned off, the tube fired, and after waiting *at least* 5 minutes, the cover may be removed and the capacitor then discharged by carefully shorting the terminals with an *insulated* screwdriver. Unit produced 10 lumen-seconds per square foot at 9 ft. (about 40% less than *Heiland Strobonar*). Effective duration of flash, 0.22 millisecond or about 1/4500 second. Recycling time, 20 seconds. If flashed at 15 seconds, when ready as indicated by light of neon lamp, output was reduced to 8 lumen-seconds per square foot. Unit was very convenient to use. Weight, approximately 4½ lb. Voltage breakdown test was not made on this unit.

Stapling Machines for Papers

Arrow, Model 25-49, stapler, tacker, and plier is manufactured by Arrow Fastener Co., 34 Maujer St., Brooklyn 6, N. Y., and sold by 5-and-10-cent stores for 79 cents, plus 20 cents for a box of 1000 staples. In a short period of use, this stapler performed as satisfactorily as the usual office stapling device; it also did a good job as a tacker.

Duo-Fast Pocket Stapler, made by Fastener Corp., Franklin Park, Ill., sells for $2.95, including box of 1000 No. 154 *Duo-Fast* staples. A slender, pen-size paper fastener resembling a fountain pen, it can be carried in the vest pocket. The stapler weighs only about 1½ ounces and holds 100 ¼-inch-wide staples.

It was claimed by the manufacturer to be capable of fastening as many as 12 sheets of paper "as securely as two"; CR found it to do a satisfactory job of stapling with as many as 8 sheets of medium-weight bond, but beyond this number stapling became poorer; with 16 sheets it was impossible to close the staple completely.

Swingline "Tot 50" stapler and tacker is a miniature-size desk stapling and tacking device marketed by Speed Products Co., Inc., 32-01 Queens Blvd., Long Island City 1, N. Y. The stapler comes in a small plastic box complete with 1000 staples at a retail price of 98 cents. Designed with a metal base and a red plastic top, this stapler is attractive, but it will not withstand frequent or heavy usage.

Although closure of the staple was possible through some 20 sheets of medium-weight bond paper, the finished job even for a small number of sheets was not a satisfactory one. When stapling two or three sheets of paper, the ends of the staple were left parallel to the plane of the paper instead of being bent inwardly against the paper as they would be by the usual office stapling device and even by low-priced staplers sold by the 5-and-10-cent stores for 79 cents to $1. When the ends of the staple are not bent inward toward the paper, and hence do not provide a third point of contact between paper and staple, the papers are not held with the desired firmness, and will tend to work loose as the holes made by the staple become enlarged. When the stapler was used on a considerable number of sheets, the position of the ends was even more unfavorable. The manufacturer did not realize the importance of designing his appliance to shape the staple properly at the time of fastening the papers.

Of two samples of the *"Tot 50"* that were purchased, one failed to operate correctly after only 200 stapling operations, due to failure of the feeding mechanism caused by weak return of the stapling head. The second sample continued to work and operate rather smoothly, with little effort, after more than 500 staples had been applied. Did a fairly good job as a tacker.

Since the staples used in these devices are smaller than standard, the owner may be limited at some time to one source of supply for additional staples; this could be a disadvantage in case the manufacturer should not continue production of this item.

The second, third, and fourth staplers are the Duo-Fast Pocket, Arrow, Swingline "Tot 50" respectively. A stapler of the usual size and type generally employed for office purposes is shown to the extreme left, for comparison of size with the staplers discussed in the article.

"Titania" Gems

SOME YEARS AGO technicians of the National Lead Company obtained from their laboratory furnaces a beautiful crystal. When it was properly cut and polished, this crystal, called "titania" because it is prepared by fusing titanium dioxide (rutile) at a very high temperature, made a gem stone similar to the diamond in color and brilliance. (Titanium is one of the 10 most common elements and said to be widely distributed in small quantities on the earth's crust.)

In a short time, the titania gems were marketed under a number of different names, *Kenya*, *Titania*, *Diamothyst*, *Jarra*, *Meredith*, and *Sierra*. The new gems are priced very much lower than the diamond the titania gem so closely resembles. A one-carat titania gem sells at $20 to $25 or less; a one-carat diamond sells at $250 to $1000.

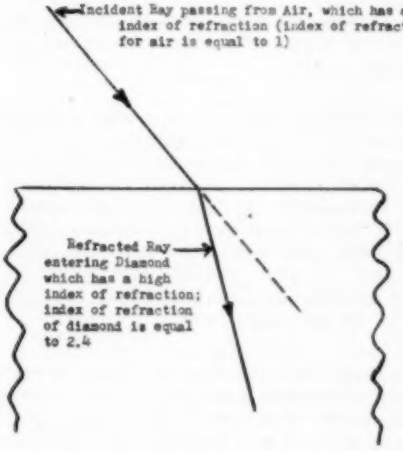


Figure 1 — Refraction

Light ray bent or refracted as it passes from air (which has a low index of refraction) to diamond (which has a very high index).

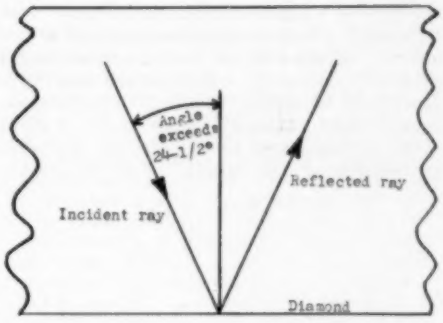


Figure 2 — Total Reflection in a Diamond

In the diamond, having the high index of refraction of 2.4, a ray striking an inside surface will be reflected "totally" (instead of being partially reflected and partially passing through) if the angle exceeds 24½°. This figure shows the total reflection that occurs with dispersion as shown in Figure 3.

Enthusiastic advertising claims about the brilliance of titania gems are not without foundation. Any statement that the brilliance of a titania gem is superior to that of a diamond, however, is based on theoretical considerations and would be true only if all other conditions were equal. It so happens that other factors modify the results in practice.

The brilliance of sparkle of any gem is due to a number of factors, including a relatively high "*index of refraction*" and proper cutting to take advantage of this property. The index of refraction of a substance is a measure of the bending (refraction) of light that occurs when light passes at an inclined angle from air into the substance (see Figure 1). (The greater the light bending power, the higher the index of refraction.) Diamond, which is a crystalline form of carbon, has an index of refraction of about 2.4. Titania, which is titanium oxide, has an index of refraction about 2.75, even higher than that of a diamond.

The stone must be cut, however, to take advantage of this high figure, for the practical effect of the index is in its relation to reflecting properties. When one looks at a properly cut gem stone, it sparkles with light in almost any direction it is turned. The sparkle is due to light which enters the gem but is totally reflected back from the facets of the gem toward the observer (see Figure 2).

Ideally, a gem of titania if properly cut should have a higher sparkle and brilliance than a diamond. Most titania gems produced so far, however, *absorb* some of the light which enters them and returns by reflection, and their brilliance may be slightly impaired. Furthermore, titania gems characteristically have a slight "oily" surface luster which lacks the sharpness or coldness of the sparkle of a first-quality diamond. This luster may not be recognized by the untrained eye unless a titania gem is directly compared with a diamond. It is readily seen even by an untrained observer, however, when a titania gem and a diamond are viewed side by side.

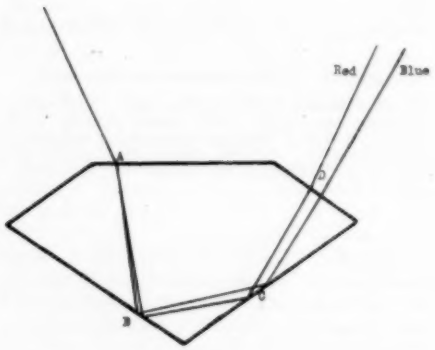


Figure 3 — Light Dispersion in a Diamond

The incident white light rays at A are deflected from their straight path (refracted) by the gem and are also separated (or dispersed) into their colored components (the colors of the rainbow). The individual colors are reflected twice from the inside totally reflecting surfaces of the gem (at B and C) and they leave the gem at D as dispersed light showing spectral colors, which is one phenomenon that gives the diamond (and titania) its brilliance. In order to permit the effect to show clearly, the amount of the dispersion is greatly exaggerated in the diagram.

The play of colors which is looked for in the reflected light from a gem is due to the *dispersion* of the gem or the way it separates white light into the various colors of the spectrum (Figure 3). Titania has a higher dispersive power than the diamond. Those who favor the diamond say that titania exceeds the amount of dispersion desirable for optimum beauty in a gem stone. That is a matter of opinion, however, and would not be agreed to by all.

The most important difference in favor of diamond is that it is vastly harder and more resistant to scratching and wear than titania. On Moh's mineral scale of hardness, diamond has the top hardness of 10, as diamond is the hardest substance known, natural or artificial. Titania has a hardness of only about 6.5 on the same scale. It is not so hard as quartz (with a hardness of 7) and will suffer scratches from it or anything harder. (Quartz, it might be mentioned, is a common constituent of ordinary household scouring powders.) Glass has a hardness of about 4.5 to 6.5. This relative softness of titania is a real practical disadvantage, since any gem, especially in a ring, is likely to be scratched, marred, dulled, or frosted in everyday wear.

If a person did not subject his gem stone to everyday wear, however, or if he has the gem repolished when necessary, a titania stone might provide the brilliance which is looked for in gems. Thus, for some persons, the relative softness of titania might not be a serious disadvantage at all.

The measure of beauty is, of course, a matter of personal opinion and preference, and the value of any kind of gem is what *consumers in substantial numbers are willing to pay for it.* It is recommended that the purchaser compare, side by side, a diamond and a titania gem of comparable color and size. That comparison will settle for each individual the question of which seems to him to have the greater brilliance and fire for the money invested.

An expert can only sum up what is known about both diamonds and titania gems. Titania gems are soft; they cannot resist scratching and marring of finish as a diamond can. The brilliance of titania gems approximates that of a diamond and the dispersion of titania gems exceeds that of a diamond. Titania gems are very low in price compared with diamonds, and this factor may offset long wear for some consumers.

Three 1952 Refrigerators

IN THIS ARTICLE we present listings of three *Crosleys*, making a total of 11 new model refrigerators and one combination unit. (See Oct. '52 BULLETIN.) Tests on *Kelvinator* and additional *Philco* refrigerators are not yet complete, but will be reported as soon as data are available and checked. For the convenience of subscribers, listings of the refrigerators which appeared in the October BULLETIN are repeated (in highly condensed form) at the end of this article.

A. Recommended

Crosley, Model SD-95 (Crosley Div., Avco Mfg. Corp., Cincinnati) $300.

Dimensions:
56 in. high, 31¼ in. wide, 31 in. deep. Total rated capacity, 9.5 cu. ft. (actual, 9.4 cu. ft.). Rated shelf area, 19.4 sq. ft. (actual, 19.5 sq. ft.). Frozen food storage space, 1.1 cu. ft.

Description:
A refrigerator of the normal type, without the new automatic defrosting feature. Had 2 ice-cube trays (total, 3.6 lb. of ice cubes).

Performance in test:
Time to lower temperature from 110° to 46°, 4 hr., or 0.43 hr. per cu. ft. (good). In no-load test at 90° room temperature with control set to give 43° in storage compartment, average air temperature in freezer was 21.7° (too high). Percent running time of motor, 23.8 (very good). Cost of operation per month, $1.22 (13c per cu. ft.), below average — desirable. Time to make 3.6 lb. of ice cubes, 3.25 hr. (0.9 hr. per lb.). Some sweating of cabinet at 93° and 89% relative humidity. **2**

Crosley, Model CAD 105 (Crosley Div., Avco Mfg. Corp.) $440.

Dimensions:
59½ in. high, 31½ in. wide, 31¼ in. deep. Total rated capacity, 10.5 cu. ft. (actual, 9.7 cu. ft.). Rated shelf area, 18.3 sq. ft. (actual, 18.2 sq. ft.). Frozen food storage space, 1.3 cu. ft.

Description:
Had automatic defroster, which consisted of heating elements around evaporator, operated by a 24-hr. clock switch which turns the defroster on at 3 A.M. each day. Melted frost drains to pan in motor-compressor compartment where it is evaporated. A baffle is adjustable; manufacturer recommends that it be open in hot weather, closed in winter. Had 3 ice-cube trays (total, 5.4 lb. of ice cubes).

Performance in test:
Time to lower temperature from 110° to 46°, 3.55 hr., or 0.37 hr. per cu. ft. (good). In no-load test at 90° room temperature with control set to give 43° in storage compartment, average air temperature in freezing chamber was 19.1° (too high); 15.3° with baffle closed (good by comparison with most of the other makes tested, but not fully satisfactory). Percent running time, 28.6 (good). Cost of operation per month, $1.73 (18c per cu. ft.), above average. Maximum time to make 5.4 lb. of ice cubes, 2.65 hr. (0.5 hr. per lb.). Some sweating of cabinet at 93° and 89% relative humidity. After 10 days of operation, there were some ice droplets on bottom of top plate of frozen food compartment, fairly heavy frost and ice on trays and the metal shelf over the trays, ice and frost on exposed parts of packages, and packages were frozen together. High-grade ice cream was normal in color, texture, and appearance and showed no signs of having been melted. Maximum temperature of ice cream during defrosting, 23.5°. Maximum temperature of air in freezer space during defrosting, 37.2°. Length of defrosting cycle, approximately 9 minutes. **3**

B. Intermediate

Crosley, Model T-CAD-12 (Crosley Div., Avco Mfg. Corp.) $520.

Dimensions:
67 in. high, 31½ in. wide, 31¼ in. deep. Total rated capacity, 12.1 cu. ft. (actual, 11.6 cu. ft.). Rated shelf area, 21.9 sq. ft. (actual, 21.6 sq. ft.). Frozen food storage space, 2.2 cu. ft.

Description:
A 2-door refrigerator, but did not have separate controls for freezer and storage sections and is thus not to be confused with the 2-door combination refrigerator-freezers. Automatic defrosting system was same as that of *Crosley CAD 105*. Had 3 ice-cube trays (total, 5 lb. of ice cubes).

Performance in test:
Time to lower temperature from 110° to 46°, 3.37 hr., or 0.28 hr. per cu. ft. (very good). In no-load tests at 90° room temperature with control set to give 43° in storage compartment, average air temperature in freezer compartment, 24.3° (much too high); 17.5° with baffle closed (high). Percent running time, 34 (satisfactory). Cost of operation per

month, $3.16 (27.2c per cu. ft. — highest of the 11 1952 models tested to date). Maximum time to make 5 lb. of ice cubes, 2.25 hr. (0.45 hr. per lb.). Considerable sweating of cabinet at 93° and 89% relative humidity. After 10 days of operation, some ice droplets on bottom of top plate of freezer compartment, moderate frost on ice trays and metal shelf over trays, some frost on food packages, and packages were frozen together. High-grade ice cream was normal in color, texture, and appearance, and showed no signs of having melted. Maximum temperature of ice cream during defrosting, 23°. Maximum temperature of air in freezer space during defrosting, 43.5°. Length of defrosting cycle, approximately 10 minutes. **3**

* * *

The following are abbreviated listings, based on the article on pages 9 through 16 of the October 1952 CONSUMERS' RESEARCH BULLETIN.

A. Recommended

M. W. Supreme, Model 69A971R (Montgomery Ward & Co.) $265. Capacity, 9.2 cu. ft. (manufacturer's rating, 8.9 cu. ft.). **1**

Coldspot Thermo-matic, Model F9T-C (Sears, Roebuck & Co.) $320 in retail stores. Capacity, 9.4 cu. ft. (manufacturer's rating, 9.1 cu. ft.). **2**

Frigidaire Cycla-matic, Model 1R-90 (Frigidaire Div., General Motors Corp., Dayton 1, Ohio) $400. Capacity, 9.1 cu. ft. (manufacturer's rating, 9.0 cu. ft.). **3**

General Electric, Model LF8JS1 (General Electric Co., Bridgeport 2, Conn.) $357. Capacity, 7.7 cu. ft. (manufacturer's rating, 8.7 cu. ft.). **3**

Westinghouse Frost-Free, Model DFD-84 (Westinghouse Electric Corp., Mansfield, Ohio) $400. Capacity, 8.3 cu. ft. (manufacturer's rating, 8.4 cu. ft.). **3**

B. Intermediate

Admiral, Model 982 A (Admiral Corp., Chicago) $340. Capacity, 8.9 cu. ft. (manufacturer's rating, 9.4 cu. ft.). **2**

Norge Self-D-Frost, Model DSD-86 (Norge Div., Borg-Warner Corp., Chicago) $360. Capacity, 7.9 cu. ft. (manufacturer's rating, 8.3 cu. ft.). **2**

C. Not Recommended

Philco, Model 828 (Philco Corp., Philadelphia 34) $350. Capacity, 8.5 cu. ft. (manufacturer's rating, 8.2 cu. ft.). **2**

Refrigerator-Freezer Combination

C. Not Recommended

Hotpoint, Model EG-87 (Hotpoint Inc., Chicago) $467. Capacity, 8.5 cu. ft. (manufacturer's rating, 8.7 cu. ft.). Failed proof-voltage test; otherwise would have been rated *A. Recommended*. **3**

Car Designs Criticized

ONE of our subscribers, Mr. Harry O'Meara, of Montgomery, New York, comments as follows regarding the new cars:

> I'd like to see the automakers concentrate on a safer car and a car easier to repair (body and engine) instead of a faster and flashier car.

We believe Mr. O'Meara speaks not only for himself, but for several millions of automobile owners. Many drivers have had occasion to note the great cost of making the simplest repairs to damaged fenders, doors, and grilles, whereas minor dents used to be a matter of a dollar or so, when fenders and other exposed parts were designed for simple and inexpensive correction. More important still is the many ways in which most of today's cars are *unsafe to drive* — too wide; no running boards; poor vision to rear and over the hood; bottom of windshield glass too high for the windshield to be seen through properly by any but tall drivers; windshield curvature, which makes the problem of windshield wiper action more difficult and also introduces disturbing distortions of the image of the road; improper weight distribution, the larger percentage of weight being on the front wheels instead of the rear, with loss of traction on rear wheels, causing difficulties and a far greater tendency toward skidding on slippery road surfaces; high steering ratios, which help with parking but make it hard to correct the direction of travel quickly enough when going into a skid; large shiny chrome-plate areas and bright knobs and projections to catch the light from street lamps and signs, and so impair the driver's vision when driving at night, a shiny "dash shelf" reflected from the windshield glass to confuse vision of the road and cars ahead.

Off the Editor's Chest

(Continued from page 2)

models and the promise of improved features, greater power and acceleration, and higher speeds. While this turnover may be too rapid, studies by Consumers' Research seem to indicate that, taking a number of factors into consideration, it is usually economical for many consumers in certain income brackets to turn in a car on a new one every three years. The widespread distribution and general use of a wide variety of household appliances that save much time and effort for the men and women in the home is no doubt partly due to national advertising; their efficiency and relatively attainable prices, on the other hand, are due to the engineering skill of American production experts.

Critics are on sounder ground when, instead of attacking advertising in general terms, they concentrate on particular cases so flagrantly based on falsehoods, so exaggerated in their claims, and in such obviously bad taste that even the advertising profession itself has at times been outspoken in censure. Among the abuses that have come under fire are: phony testimonials by persons not technically competent to judge the product, misleading use of marketing data (including so-called consumer surveys), misleading use of scientific tests by drawing unwarranted conclusions from limited data, with suppression of unfavorable findings, phony contests, "bait advertising" of rebuilt vacuum cleaners, television sets, and sewing machines, and the use of endorsements by public celebrities of products for children that their parents may not wish them to have.

Although the defenders of advertising may take the position that its aim is "to help create and distribute better values" which are offered in competition for the buyer's selection, advertising men themselves admit that advertising is too often used in a socially useless and economically wasteful wrangle to switch customers back and forth between brands by means of trivial or fictitious differentiation. The example that most readily comes to mind is cigarette advertising, which has been the subject of repeated action by the Federal Trade Commission for false and misleading claims. The F.T.C. has ruled and many informed people know that there is little if any significant difference between the popular brands of cigarettes and that one cigarette is no more irritating to the throat of the smoker than another. In ordering the American Tobacco Company to stop claiming that *Lucky Strikes* were less irritating to the throat, the F.T.C. pointed out that medical experts held that *any* cigarette smoke was irritating to the throat. The claim that "new evidence proves Luckies best made of five principal brands" was severely criticized by the Dallas (Texas) Advertising League as "tending to destroy public confidence in advertising as a whole" and clouding "general credence in advertising."

Lucky Strikes are not, of course, unique in the cigarette field for their objectionable advertising claims, or for their constant emphasis on trivial or non-existent elements of differentiation. The Federal Trade Commission has also taken action against false and misleading claims for *Camels*, *Old Golds*, *Philip Morris*, and other brands. Advertising for *Chesterfields* on a radio program last year, purporting to show that only *Chesterfield* advertising told the truth about its product, was exposed as deceptive by the National Better Business Bureau in one of its bulletins.

A more spectacular case of misleading advertising was that of *Hadacol*, the "miracle" vitamin-and-tonic preparation, that plummeted from a $20 million a year business to reorganization in bankruptcy proceedings with liabilities of over $4 million, including among its 7000 creditors various advertising and entertainment agencies. This nostrum, described by the American Medical Association as "a simple mixture of vitamins and minerals in alcohol" was an outstanding example of carnival showmanship, bringing up to date the old patent medicine show technique, augmented with lavish use of testimonial advertising skilfully worded to suggest that the product could remedy the ills of all ages.

Where public reaction to cigarette and patent medicine advertising may have been chiefly one of amused cynicism, the advertisement that really brought down a hornet's nest of disapproval was one in late 1950 based on the theme that a television set in the home was absolutely essential to a child's happiness. The implied criticism that parents were failing in their duty

to their families if they did not provide a television set for them brought such a spontaneous storm of protest from so many quarters that the trade association sponsoring the series of advertisements hastily scrapped the theme of the first one for a less objectionable approach. As the spokesman of the association's advertising agency put it, "The impact of the first ad was so powerful and the reaction was so vigorous and strong that — in advance of the planned time schedule — the desired effect of the emotional appeal has already been achieved." (Note the cynical emphasis on desired effect, and disregard of the morality of the means by which it was achieved.)

Cigarette advertising of the best known brands, the ballyhoo for *Hadacol* and other nostrums, the socially unacceptable appeal of a trade association to pressure parents into buying a television set for their children whether they wanted one or not, or whether the family budget could stand the outlay or not are all samples of what might be called the huckster type of advertising. For a definition of the term, readers may take their choice of the several offered in any standard dictionary. Students of advertising should in attempting to evaluate its social significance or value keep in mind that many in the advertising profession, trade journals, and businessmen have openly denounced such exaggerations, distortions of truth, high-pressure tactics, and bad taste, and have indicated their concern lest, through such abuses, all national advertising become suspect in the eyes of the American public. One advertising spokesman has suggested that more representative of the better type of advertising is that put out by the big mail-order houses in their catalogs, which he commends for the matter-of-fact product information, straightforward approach with prices clearly given, and money-back guarantees in most cases.

The most effective approach for students to take, in our opinion, is not to waste time in futile debate as to whether or not advertising is socially desirable or not, but to decide whether or not a particular advertisement or series of advertisements gives them the information they deem essential for making an intelligent purchase, tells the truth, so far as they are in a position to judge, and refrains from wasting their time and interest on misleading or irrelevant subject matter. One student recently wrote Consumers' Research that his class was making a study of advertising and that he had chosen the advertising of *Buick* automobiles as his topic. He wanted us to send him some information on the subject. Obviously the place to look for advertising of particular automobiles is in almost any of the big popular magazines, where a good selection of ads can be secured. An analysis might be made of the particular features being promoted, whether these features were to be considered important or essential to a prospective car owner, and then the student would compare the list of *advertised* features or advantages with those he considered *important or essential* to a prospective car owner and with the important points evaluated and rated in CR's tests of cars (for example, the delivered price relative to other cars of about the same size and horsepower, road vision over hood and to the rear, miles per gallon in level road driving, dollars depreciation based on turn-in value at the end of the first year, advantages and disadvantages of automatic transmissions, power steering devices, tinted glass windshields).

Advertising is not usefully studied in a vacuum, as a theoretical problem in sociology or economics. It is a tool for the distribution of products, services, and ideas (propaganda). It is not good or bad in itself, and is no better and no worse than its user and the use to which it is put.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF Consumers' Research Bulletin published monthly at Washington, N.J., and Easton, Pa., for September 1951-September 1952. 1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Consumers' Research, Inc., Washington, N. J.: Editor, F. J. Schlink, Washington, N. J.; Managing editor, none; Business manager, Charles D. Cornish, Washington, N. J. 2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.) Consumers' Research, Inc., a non-profit corporation, not a business enterprise, not operated for profit; Washington, New Jersey. Stock, none. 3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None. 4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner. C. D. Cornish. Sworn to and subscribed before me this eighteenth day of September, 1952. John P. Cahill [Notary Public]. (My commission expires October 9, 1956.)

Anti-Freeze

THE PREFERRED KIND of anti-freeze for most cars today is ethyl alcohol (ethanol), with methyl alcohol a frequently necessary second choice. The so-called permanent types (ethylene glycol, propylene glycol, or mixed glycol base) should be used for one season only and hence are not as "permanent" as the term implies; these anti-freezes, which have a higher boiling point than the alcohols, are necessary only for cars in which a high-temperature thermostat (180°) has been installed in order to provide extra capacity for the car's heater; they have their uses also for cars operated at unusually high altitudes, where the boiling point is considerably lower than at sea level.

Unfortunately there are very few dealers handling ethyl alcohol any more, and the great majority of consumers, we believe, will be able to purchase only methanol (wood) alcohol. This anti-freeze has excellent properties and is more effective per quart than ethanol, but has the great disadvantage that it is extremely poisonous and is thus a much more dangerous material to handle or inhale than most consumers are likely to assume. Methanol, when properly labeled, carries a skull-and-crossbones poison warning, is plainly marked POISONOUS, and is usually colored a strong violet hue to distinguish it from other anti-freeze liquids. Some brands of alcohol anti-freeze are now sold diluted with water; listings, therefore, include the percentage of anti-freeze in solution required to protect to –30°F. Purchases should be made on the basis of total outlay to protect the radiator to the desired low temperature rather than on the basis of price per quart.

Do not use any anti-freeze that is made or marketed by a firm of unknown name or dubious background. There is great risk of ruining radiator or engine in buying anti-freeze of unknown composition or origin; many such have been sold. Some states have regulations and laboratory services which prevent the sale of anti-freeze mixtures of a definitely unsafe kind that may do gross harm to the engine and radiator. However, in one such state a manufacturer was able to keep a highly deleterious calcium chloride solution on sale and obtain a license for marketing it, even though qualified chemists employed by the state for such studies recommended against acceptance of the product. (There were offers of bribes involved in the incident.) It is, therefore, sound practice not to use any anti-freeze of unknown composition. If your state is one that has official control of anti-freeze solutions, ask for information on the laboratory findings on any product about which there is any doubt. Especially avoid any anti-freeze which consists of a solution of calcium chloride or other salt-base material *regardless of any claims that may be made for inhibition of such solutions to prevent corrosion of water jacket and radiator.*

The Bureau of Standards recommends the following convenient methods of identifying the various types of anti-freezes: Dip a small bit of rag in the solution and, in a safe place, away from the container, set fire to it. The alcohol-base products will burn with a clean blue flame; petroleum-base solutions (not recommended) give a smoky, yellow flame; salt-base anti-freezes (grossly destructive to radiator systems) will not burn at all.

The anti-freeze testers used by service stations, and those sold by auto accessory stores, have been found on a few tests conducted by CR not to be reliable; they are often lacking in accuracy, and are used, too, under conditions which often are unfavorable to careful and correct reading of the scale of the float. It is advisable as a matter of safety to assume that the protection afforded is perhaps 10° less than what is indicated by the tester.

In the listings, the brands having an asterisk (*) have pH values and reserve alkalinities that are considered to be within ranges that are more desirable than those found for other brands. Percentage figures indicate percentage of the anti-freeze in water solution required to protect the cooling system to – 30°F. For example, to protect a 4-gallon cooling system with methanol of the grade that requires a 57 percent solution and sells at $1 per gallon would cost $\frac{57 \times 4 \times 1.00}{100}$ or $2.28; with methanol of the grade that re-

quires a 40 percent solution but sells at $1.20 per gallon, cost would be $\frac{40 \times 4 \times 1.20}{100}$ or $1.92. Thus the methanol at $1 per gallon is actually about 20 percent more expensive to use than the methanol at $1.20 per gallon in this example.

The ratings that follow are based on analyses published by the State Laboratories Dept. of North Dakota. CR alone is responsible for the ratings, which have not been referred to or discussed with the North Dakota chemists.

Permanent Anti-Freezes

Ethylene Glycol

The following are rated *B. Intermediate* by CR because glycol anti-freezes are considered not quite so sure as denatured alcohol to be free from the possibility of causing clogging of radiators under exceptional circumstances. Moreover, leakage of a glycol anti-freeze into the engine and crankcase may result in formation of products which can cause sticking of valves and rings, lubrication failure, and serious damage to the engine if operation is continued. (Permanent anti-freeze solutions, because of their high boiling points, will remain mixed with the lubricating oil, whereas alcohol anti-freeze solutions will be evaporated.)

B. Intermediate

**Atlas Perma Guard* (Standard Oil Co.)
Cities Service (Cities Service Oil Co.)
**FoMoCo* (Ford Motor Co.)
**Frigitone* (Firestone Tire & Rubber Co.)
**Hudson Protective* (Hudson Motor Car Co.)
**Kaiser Frazier* (Kaiser-Frazier Sales Corp.)
**Lincoln* (Ford Motor Co.)
**Mobil Permazone* (Socony Vacuum Oil Co.)
**MoPar* (Chrysler Motor Parts Corp.)
**One Fill* (The Pure Oil Co.)
**Peak* (Commercial Solvents Corp.)
**Prestone* (National Carbon Co.)
Shellzone (Shell Oil Co.)
Stet (B. F. Goodrich Co.)
Studebaker (The Studebaker Corp.)
Texaco PT (The Texas Co.)
**USI* (U.S. Industrial Chemicals Inc.)
**Wards Winter King* (Montgomery Ward & Co.)
**Zerex* (E. I. du Pont de Nemours & Co.)

Propylene Glycol

This is probably as satisfactory as ethylene glycol, in its general properties, but it is not practicable to measure the protection afforded, with the usual kind of hydrometer available for use by the consumer and by filling station personnel.

C. Not Recommended

Saf-Tone (United Distillers of America Inc.)
Varcon (Gamble-Skogmo Inc.).

Denatured Alcohol (Ethanol)

A. Recommended

Saf-Tee Super Type N (United Distillers of America Inc., New York City) 54%.
Thermo Type N (Publicker Industries Inc., Philadelphia) 54%.
USI Type N (U.S. Industrial Chemicals Inc., N.Y.C.) 58%.

Methanol (Wood Alcohol)

B. Intermediate

**Allstate Durozone* (Sears, Roebuck & Co.) 40%.
**Allstate Methanol* (Sears, Roebuck & Co.) 40%.
Blue Club (Cities Service) 55%.
Frigitex (Firestone Tire & Rubber Co.) 41%.
**Koldpruf* (Cities Service) 42%.
MoPar (Chrysler Motor Parts Corp.) 42%.
Norway Synthetic (Commercial Solvents Corp.) 40%.
Prep (B. F. Goodrich Co.) 40%.
Pure Sure Synthetic (Pure Oil Co.) 40%.
Shell Super Strength (Shell Oil Co.) 41%.
Standard Super (Standard Oil Co.) 42%.
**Super Pyro* (U.S. Industrial Chemicals Inc.) 41%.
Trek Concentrated (National Carbon Co.) 41%.
Varcon 188 (Gamble-Skogmo Inc.) 58%.
Varcon Concentrated. 42%.
Wards Ice-Guard (Montgomery Ward & Co.) 57%.
**Zerone Anti-Rust* (E. I. du Pont de Nemours & Co.) 42%.

Other Types of Anti-Freeze

C. Not Recommended

All products containing petroleum distillate (similar to kerosene or fuel oil), calcium or magnesium chloride, honey, glucose, or sugar.

TV Boosters and a TV Receiver

THE OWNER of a television receiver in an urban area is quite often amazed, when visiting his country cousin, to see the elaborate antenna array and the various aids which are used to attain the reception of a passable picture in the country. In those so-called "fringe" areas where the signal from a particular TV station is so weak that at best a poor picture is received, many owners of TV sets use a signal "booster" which, in effect, acts to increase the amount of signal supplied to the TV receiver from the station and thus makes picture reception possible, or more satisfactory.

A good booster will increase the strength of the incoming television signal up to 30 times in some cases. It should also provide this increase in signal strength without decreasing the relative values of the voltages producing the signal and the "noise" or "snow"; the user can evaluate this factor qualitatively by noticing the amount of "snow" in the picture when the booster is in use and when it is disconnected. An increase in signal strength due to the amplifying action of the booster may only result in a change in contrast, i.e., better distinction between black and white portions of the picture, without an apparent reduction in the amount of "snow" present. Such a booster is fulfilling only half its function in most viewing areas. It must be noted, however, that if the value of the incoming signal to the booster is not well above the noise level, a booster cannot correct the situation; a possible solution lies in increasing the number of elements in the antenna or possibly in changing its position or increasing its height. The addition of an antenna rotator or the use of a coaxial cable for the lead-in may also be helpful in many instances.

If a booster is to be purchased without the aid of competent advice from someone in the immediate neighborhood having experience with the problem, who can actually watch the operation of your set both with and without the booster, the following points of general information may be of value.

If you are located in an area in which signal strength is weak and the picture exhibits a moderate amount of "snow" at all times, a booster having low or medium gain may be preferable to one having high gain.

If the area is one in which all channels received exhibit much "snow" and at times the signal level from a particular station drops to a point where the picture is almost completely lost, use of a high-gain booster is almost a necessity if reliable reception is desired, and even then, of course, there is no guarantee that good reception will be obtained. The condition and kind of antenna, its height, its location, and the type of lead-in and its physical condition and location are also contributing factors. TV antennas exposed to the elements, unfortunately, will not last forever, and their efficiency and that of the lead-in will likely decrease considerably with time, even though they do not suffer mechanical damage. A recent article in a TV servicing magazine, for instance, places the average life of an antenna at a little over 2 years, and it is likely that in areas where there are corrosive fumes in the atmosphere, and particularly in coastal areas, this estimate is a reasonable one.

CR receives many letters from subscribers living in places at distances of 80 to 120 miles or more from a telecasting station asking what television receiver we would recommend for their location. With normal conditions of reception, a receiver having better than average sensitivity, that is one above average in its ability to present a picture with weak signals from the telecasting station, is to be preferred for such use. However, the care and competence with which the complete antenna-booster-receiver installation is made are very important in all cases where reception is inherently weak. If reception is desired on a single channel, there are available specially designed antennas of a kind having unusually high gain; for such use the so-called Yagi is the preferred choice of many installers, and if reception on more than one channel is desired, a separate antenna is used for each station. Equally important is the choice of booster, and one exhibiting very high gain or amplifying characteristics combined with a low noise level and stability of operation is desir-

able. If the installation calls for use of a single channel antenna, then it is likely that a booster should be used which is designed particularly for installation outdoors, close to or on the antenna itself. Such a booster offers the advantage of boosting the signal *before* it is mixed with the extraneous noise impulses that are picked up by the lead-in to the TV receiver and may serve to give a cleaner picture. (Boosters of this type have not been tested by CR.)

Before purchasing a booster, it is a good idea to go over the antenna installation and make sure that it is adequate for the job. It is also important to make sure that the receiver itself is correctly *aligned*. Since most of the receivers now produced will work satisfactorily in urban and suburban areas where most sales are made, manufacturers often do not take the trouble to align their receivers to give the best possible reception in the more remote or fringe areas, where only a relatively small proportion of the receivers will be used.

In the listings that follow, ratings are based upon the amount of gain and upon the general over-all usefulness of the booster. The *Alliance Tenna-scope AB-1* and the *Regency DB-520* carried the Underwriters' Laboratories' label. Prices given are list prices; the boosters are available at several mail-order radio and TV supply houses at a considerable discount.

A. Recommended

Alliance Tenna-scope AB-1 (Alliance Mfg. Co., Alliance, Ohio) $29.95. Single tube and selenium rectifier. Plastic cabinet. Single tuning control provides for operation on low and high band as well as by-passing incoming signal directly to TV receiver; to avoid use of an additional control, a thermal relay turns on the booster automatically when TV set is turned on. Workmanship, good. Relative sensitivity, higher than average on both low and high bands. Leakage current, negligible. This was an excellent booster with sufficient gain for most locations, and it was considered easy to operate. **1**

Astatic, Model CT-1 (Astatic Corp., Conneaut, Ohio) $32.50. Two tubes plus selenium rectifier. Metal cabinet. Controls for low and high band and on-off, and tuning. On sample tested, operation of bandswitch, erratic and difficult to make work; operation should be checked before purchase. Relative sensitivity, above average on both the low and high TV bands. Not comparable to the *Astatic AT-1* in operation, but did have an extra winding on the transformer which eliminated the potentiality of shock hazard present in the *AT-1*. **2**

B. Intermediate

Standard, Model B-51 (Standard Coil Products Co., Inc., Chicago) $37.50. Single tube plus selenium rectifier. Plastic cabinet. Had channel switch and separate fine-tuning switch with on-off. Workmanship, good. Relative sensitivity, higher than average on low band, lower than average on high band. Leakage current, negligible. **2**

National, Model TVB-2 (The National Co., Malden, Mass.) $39.95. Single tube plus selenium rectifier. Metal cabinet. Had a line switch on the back of the cabinet, a 6-position bandswitch covering the different channels, and 2 fine-tuning knobs. Workmanship, good. Sensitivity on low band, higher than average; on high band, varied from higher than average on channel 7 to below average on channel 13. Leakage current, negligible. **3**

C. Not Recommended

Anchor, Model ARC-101-75 (Anchor Radio Corp., 2215 S. St. Louis, Chicago 23) $37.50. Single tube plus selenium rectifier. Metal cabinet with brown imitation leather cover. Tuning, high and low bandswitch, and on-off switch controls incorporated in single control which makes for a complicated internal tuning mechanism, that it is believed may cause trouble. Workmanship and accessibility for servicing, fair. Relative sensitivity on low band, above average, but required detuning to obtain both picture and sound, indicative of circuits too narrowly aligned, a disadvantage in a booster; on high band, no gain was noticeable on the 3 channels checked. Leakage current, negligible. **2**

Regency, Model DB-520 (Regency Div., I.D.E.A. Inc., Indianapolis) $32.50. One tube plus selenium rectifier. Plastic cabinet. On-off switch controls both booster and television receiver. Single knob for high and low bandswitching and tuning control. Sample tested was regenerative on low band, and on high band went into an oscillating condition, which destroyed the picture. Leakage current, negligible. **2**

Astatic AT-1 (Astatic Corp.) $54.50. Four tubes. Wooden cabinet. Controls for high and low bandswitching and on-off, gain, and two for tuning. While the double tuning feature may be a bit troublesome to many users, it did give excellent results when used properly. Workmanship, good. Relative sensitivity, highest of units tested, but gain control would make booster suitable for use in all areas. In this booster, one side of power line is connected directly to chassis, and while shielding is good, there are two screws on back of cabinet which are "hot." The *Astatic* would otherwise have been considered worthy of an *A-Recommended* rating. **3**

Tune-O-Matic, Model 3002 (Electro Voice Inc., Buchanan, Mich.) $39.50. Two tubes plus selenium rectifier. Metal cabinet. Booster was designed to be mounted in the rear of the television set and is turned on and off automatically by a thermal device when the TV set is turned on and off. Only control was a gain switch. No provision for separate adjustment by user. Workmanship and accessibility for servicing, only fair. Relative sensitivity varied from less than average to average over low and high bands with gain switch in "Hi-Gain" position. In

"Lo-Gain" position, there was actually a loss in signal strength through use of the booster. Slight shock hazard. 3

A 1953 Model TV Receiver

Tests on several 1953 model receivers are now in progress and are expected to be completed in time for inclusion in the December issue of CONSUMERS' RESEARCH BULLETIN.

B. Intermediate (Tentative)

Philco, Model 53-T 2269 (Philco Radio Corp., Tioga and C Sts., Philadelphia) $469.95. 21-in. picture tube; console cabinet. Tests so far completed indicate excellent sensitivity, which would make the set particularly suitable for use in fringe areas. The much advertised high fidelity was sadly lacking, however, in the sound output. (Since the chassis was connected directly to the line, the set was not well adapted to having its audio output connected to a good high-fidelity amplifier and speaker system if the user wished to employ this.) 3

Playtex Home Hair Cutter

FOR SOME YEARS there has been a marked tendency for people to get around the expense of having some jobs done by highly paid skilled workmen by doing the work themselves. Families with children have long been buyers of scissors and other tools used for cutting, shaping, and thinning hair. Last spring, the International Latex Corp., well-known maker of *Playtex* girdles and foam-rubber pillows, began marketing a new device for home barbering, the *Playtex Home Hair Cutter*.

The advertising claims that the gadget will enable anyone to have "a professional-looking haircut for as little as 3c a haircut." This attractive proposition is based on the fact that replacement cutting blades for *Playtex* sell for 25 cents for a package of three and the claim that each blade is good for three haircuts.

The *Playtex Cutter* itself is essentially a special-sized razor blade enclosed by a guard of steel wires and mounted in a "stainfree" steel holder with a long handle. The blade is adjustable in the holder, and the distance of the blade from the edge of the guard determines the amount of the hair that is cut on each stroke, and the kind of a cut that can be made. To cut long hair, for example, the blade is in the center position. To cut short hair the blade is moved far to the right or left, so that its cutting edge is close to (but not touching) the notch of the V formed by the wire.

Those who tried it for CR found that the *Playtex* device did not work very well for cutting men's and boys' hair, and especially for cutting hair which lies flat on the skin, as it does quite often at the sideburns, around the ears, and on the neck. In the service tests it was found practically impossible for a man to trim around his own ears and neck since a sharp line of demarcation cannot be cut, and it was found necessary to finish the haircut with a razor or scissors. It was, furthermore, found practically impossible for a man to use a razor or scissors to trim around his own ears, particularly if he had to wear glasses to see what he was doing.

For cutting women's and girls' hair, no particular difficulty was experienced, but the quality of the job would depend greatly on the skill and talent of the user. Those who tried it for CR thought that it would be relatively easy for a woman to trim her own hair with *Playtex* but that it would not be practicable for a man to trim his own hair. We would not say that a man could not get a satisfactory haircut with *Playtex* with sufficient practice, but we did not succeed

in doing a good job with it. Few men, we think, would want to risk the damage to their appearance that could occur if they did not do a good job.

It should, perhaps, be pointed out that home barbering sets of clippers, comb, and shears are to be had at approximately the price of the *Playtex Hair Cutter* ($2.75 or $5), and if skill must be acquired, perhaps conventional tools might be preferred, at least for cutting men's and boys' hair. For thinning women's hair, it was judged that *Playtex* would have some advantages over the more conventional tools. It should be noted, however, that CR has not evaluated any sets of hair-cutting tools as to quality or convenience in use.

B. Intermediate

Playtex Hair Cutter (Precision Products Div., International Latex Corp., Dover, Del.) $2.95 in steel; $5 gold-plated de luxe model. Replacement blades, 25c for three. Blade was well sharpened, according to test results on CR's razor-blade testing device. (The double-edged blade was not a conventional razor blade; it was of a special size and shape.) In service tests the *Playtex* device was found easy to use for thinning and trimming women's and girls' hair, but was considered unhandy for cutting men's and boys' hair, principally because it was not easy to cut hair that lay flat on the skin, and short hair. Results in actual practice would depend to a considerable degree on the skill and care of the user.

Antibiotics in the Barnyard

THE following footnote in Fortune of March 1952, in an article on Antibiotics in the Barnyard (a discussion of the feeding of penicillin, terramycin, aureomycin, and other new vitamin and medicinal substances to domestic animals to increase their rate of growth) will be of interest to readers who may wonder how many strange things may be going on in the growing and preparation of foods that are not known to the general public, or even to nutrition teachers and other scientifically trained people, or indicated on the labels of finished food products.

> It has been known for several years that a number of arsenical compounds, classed as drugs, will stimulate growth. While they are used by a few feed manufacturers, and appear quite safe if the dosage is carefully regulated, there is a natural reluctance to feed arsenicals to animals.

In this connection it may be noted that the Food and Drug Administration has permitted the addition of antibiotics to feedstuffs by holding that they were foods, not drugs. This shows what can be done, by the proper choice of words, when the approach to a health and public welfare problem is a legal one.

One may hope that the "reluctance to feed arsenicals to animals" continues, but the consumer may be justified in doubting that the reluctance is sufficiently unanimous among farmers and ranchmen to guarantee the safety of the food supply, since obviously the poultry, eggs, meat, dairy, and medicinal products of the ranch and farm are not analyzed for arsenic content before they go into manufacture and distribution. (Medicinal substances are also a problem, since many packing house products are used in the manufacture of vitally important materials used in the treatment of disease.) There should surely be means of assuring consumers that they will not be given meat and dairy products and medicinal substances made from the organs of animals which have been fed with antibiotic substances or arsenical compounds, to produce an abnormally fast rate of growth, or for other purposes.

Corrections and Emendations to Consumers' Research Monthly Bulletins

Men's Hats
Page 12, Col. 2
April '52 Bulletin

Portis Crest. The manufacturer states that the suggested retail price of this hat was $5. While the price reported in our BULLETIN, $8.50, was the price actually paid for this hat in a haberdashery in a suburb of Chicago by a person buying for Consumers' Research, this, according to the manufacturer, Portis Style Industries, Inc., was definitely an overcharge. The price rating should be changed from **2** to **1**.

How-to-Do-It Books
Page 23, Col. 2
April '52 Bulletin

The publisher's current price is $4 for the book Everyday Automobile Repairs, by Wm. H. Crouse (priced at $3 in CONSUMERS' RESEARCH BULLETIN for April).

Ratings of Motion Pictures

THIS section aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines — some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Box Office, Cue, Daily News (N.Y.), The Exhibitor, Harrison's Reports, Joint Estimates of Current Motion Pictures, Motion Picture Herald, National Legion of Decency Lvt., Newsweek, New York Herald Tribune, New York Times, New York World-Telegram & Sun, Parents' Magazine, Release of the D.A.R. Preview Committee, Reviews and Ratings by the Protestant Motion Picture Council, *Time, Times Herald* (Washington, D.C.), *Variety* (weekly), *Weekly Guide to Selected Motion Pictures* (National Board of Review of Motion Pictures, Inc.).

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), or C (not recommended) on its entertainment values.

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure
biog—biography
c—in color (Technicolor, Cinecolor, Trucolor, Magnacolor, Vitacolor, etc.)
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fan—fantasy
hist—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
sci—science fiction
soc—social-problem drama
trav—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C		
—	8	9	**About Face**	*mus-com-c A*
—	6	10	**Actors and Sin**	*dr A*
—	6	11	**Affair in Trinidad**	*mel A*
—	1	4	**Affairs of a Model (Swedish)**	*dr A*
—	3	4	**African Treasure**	*mel AYC*
—	6	6	**All Because of Sally (formerly Sally and St. Anne)**	*com AYC*
—	7	2	**Amazing Mr. Fabre, The (French)**	*biog AY*
—	2	1	**Anna (Italian)**	*dr A*
—	—	4	**Anthony of Padua (Italian)**	*biog AYC*
—	3	3	**Apache Country**	*wes AYC*
—	3	1	**Apache War Smoke**	*wes A*
1	4	1	**Arctic Flight**	*mel AYC*
—	8	1	**Assignment — Paris**	*cri-mel AY*
—	14	2	**Atomic City, The**	*cri-mel AYC*
—	1	6	**Bal Tabarin**	*mus-mel A*
—	4	3	**Barbed Wire**	*mus-wes-c AYC*
—	8	4	**Battle at Apache Pass, The**	*wes-c AYC*
1	9	—	**Beauty and the Devil**	*dr A*
2	5	—	**Because You're Mine**	*mus-dr-c AYC*
—	—	7	**Behind Closed Shutters (Italian)**	*dr A*
—	—	3	**Bela Lugosi Meets a Brooklyn Gorilla**	*cri-com AYC*
—	13	1	**Belles on Their Toes**	*dr-c AYC*
—	4	10	**Beware, My Lovely**	*dr A*
—	7	6	**Big Jim McLain**	*mel A*
4	13	—	**Big Sky, The**	*wes-mel A*
—	2	3	**Black Hills Ambush**	*wes AYC*
—	—	3	**Black Lash, The**	*wes AYC*
—	7	—	**Bonzo Goes to College**	*com AYC*
—	4	4	**Border Saddlemates**	*wes AYC*
—	7	1	**Brandy for the Parson (British)**	*com A*
—	3	6	**Brave Warrior**	*hist-dr-c AY*
—	3	2	**Breakdown**	*mel A*
—	4	7	**Brigand, The**	*adv-c A*
—	8	—	**Bronco Buster**	*mel-c AYC*
—	—	7	**Cage of Gold (British)**	*mys-mel A*
—	7	7	**California Conquest**	*hist-c AYC*
—	5	4	**Captain Pirate**	*adv-c A*
—	14	2	**Captive City, The**	*cri-mel A*
—	8	8	**Carbine Williams**	*biog A*
—	4	3	**Caribbean**	*adv-c A*
2	4	12	**Carrie**	*dr A*
—	7	5	**Carson City**	*wes-mel-c AYC*
—	2	3	**Casque d'Or (French)**	*dr A*
2	4	—	**Cinerama**	*doc-c AYC*
—	4	13	**Clash by Night**	*dr A*
—	1	9	**Confidence Girl**	*cri-mel A*
—	12	2	**Crimson Pirate, The**	*adv-c AYC*
—	6	4	**Cripple Creek**	*mel-c AYC*
—	1	2	**Danger is a Woman (French)**	*mel A*
—	2	1	**David (British)**	*doc-dr AYC*
—	7	7	**Denver & Rio Grande, The**	*mel-c AYC*
—	1	6	**Desert Passage**	*wes A*
—	1	5	**Desert Pursuit**	*mel AYC*
—	10	4	**Devil Makes Three, The**	*mys-mel A*
1	11	4	**Diplomatic Courier**	*mys-mel A*
—	5	12	**Don't Bother to Knock**	*soc-dr A*
2	9	4	**Dreamboat**	*com A*
—	8	4	**Duel at Silver Creek, The**	*wes-c AYC*
—	4	3	**Edward and Caroline (French)**	*rom A*
5	9	3	**Encore**	*dr A*
—	2	5	**Fabulous Senorita, The**	*com A*
—	12	2	**Faithful City, The**	*dr AYC*
—	1	3	**Fall of Berlin, The (USSR)**	*war-dr-c A*
—	—	4	**Fall of the House of Usher, The (British)**	*dr A*
—	2	1	**Fargo**	*wes AYC*
1	3	1	**Father's Dilemma (Italian)**	*com AYC*
1	8	2	**Fearless Fagan**	*war-com AYC*
—	1	2	**Feudin' Fools**	*com AYC*
—	7	11	**Fighter, The**	*mel A*
—	5	4	**Franchise Affair, The (British)**	*mys-dr A*
2	6	6	**Francis Goes to West Point**	*com AYC*
—	—	4	**Geisha Girl**	*mel A*
—	1	14	**Glory Alley**	*dr A*
—	4	5	**Gobs and Gals**	*mus-com A*
—	—	3	**Gold Fever**	*mel AYC*
—	3	5	**Golden Hawk, The**	*adv-c A*
—	5	11	**Half-Breed, The**	*mus-wes-c A*
1	8	1	**Happy Time, The**	*com A*
1	11	5	**Has Anybody Seen My Gal?**	*mus-com-c AYC*
—	4	1	**Heiligate**	*mel A*
—	2	4	**Here Come the Marines**	*com A*
—	—	3	**Hideout, The (British)**	*cri-mel A*
6	10	2	**High Noon**	*wes A*
2	12	1	**High Treason (British)**	*mys-mel AYC*
—	—	4	**Hold That Line**	*com AYC*
—	3	9	**Holiday for Sinners**	*dr A*
—	2	2	**Hurricane Smith**	*adv-c A*

A	B	C		
—	4	9	**I Dream of Jeanie**	*mus-biog-c AYC*
—	5	1	**If Moscow Strikes**	*war-doc AYC*
—	3	12	**Island of Desire (formerly Saturday Island)**	*dr-c A*
2	13	1	**Island Rescue (British)**	*war-com AYC*
12	7	—	**Ivanhoe**	*nov-c AYC*
3	13	1	**Ivory Hunter (British)**	*dr-c AYC*
—	7	7	**Jack and the Beanstalk**	*com-c YC*
—	1	4	**Jet Job**	*mel AYC*
1	8	8	**Jumping Jacks**	*war-mus-com AYC*
—	1	4	**Junction City**	*mus-wes AYC*
—	2	3	**Jungle, The**	*mel-c AYC*
—	6	8	**Just Across the Street**	*com A*
1	8	1	**Just for You**	*mus-com-c A*
—	8	7	**Kangaroo**	*mel-c A*
—	4	1	**Kansas Territory**	*wes-c AYC*
—	—	6	**Katy's Love Affair (British)**	*dr A*
—	1	5	**Kid from Broken Gun, The**	*wes AYC*
—	2	4	**Kid Monk Baroni**	*mel A*
—	6	9	**Lady in the Iron Mask**	*adv-c AYC*
—	3	1	**Lady with a Lamp, The (British)**	*biog AYC*
—	—	10	**Last Train from Bombay**	*cri-mel AYC*
—	—	3	**Life of Donizetti, The (Italian)**	*mus-biog A*
—	12	3	**Lion and the Horse, The**	*mel-c A*
—	1	6	**Loan Shark**	*mel A*
—	1	7	**Lost in Alaska**	*com A*
3	6	7	**Lovely to Look At**	*mus-com-c A*
—	4	3	**Loyola — The Soldier Saint (Spanish)**	*biog AYC*
—	7	3	**Lure of the Wilderness**	*mel-c AYC*
—	12	3	**Lydia Bailey**	*adv-c A*
—	4	13	**Macao**	*mel A*
—	4	1	**Magic Box, The (British)**	*biog-c AY*
—	1	2	**Man from the Black Hills, The**	*wes AYC*
—	2	13	**Mara Maru**	*mys-mel A*
1	11	4	**Merry Widow, The**	*mus-com-c A*
1	9	2	**Miracle of Our Lady of Fatima, The**	*dr-c AYC*
—	7	12	**Miserables, Les (Italian)**	*dr A*
—	1	2	**Miss Italy (Italian)**	*dr A*
—	7	5	**Miss Julie (Swedish)**	*dr A*
—	1	6	**Models, Inc.**	*cri-mel A*
1	6	6	**Monkey Business**	*com A*
—	1	2	**Montana Incident**	*wes AYC*
—	2	6	**Montana Territory**	*wes-c AYC*
—	4	8	**My Man and I**	*soc-dr A*
—	1	2	**My Wife's Best Friend**	*dr A*
—	13	2	**Narrow Margin, The**	*cri-mel A*
1	12	—	**Never Take No for an Answer (Italian)**	*dr AYC*
—	—	4	**New Israel, The (Israeli)**	*doc AYC*
—	1	2	**Night Raiders**	*wes AYC*
—	1	4	**Night Stage to Galveston**	*mus-wes AYC*
—	1	4	**Night with Sleep**	*cri-dr A*
—	4	6	**No Resting Place (British)**	*dr A*
—	3	9	**No Room for the Groom**	*com A*
2	4	1	**O. Henry's Full House**	*dr A*
—	4	5	**Oklahoma Annie**	*mus-com-c AYC*
—	4	1	**Old Oklahoma Plains**	*mus-wes AYC*
—	10	4	**One Minute to Zero**	*war-mel A*
—	12	5	**Outcast of the Islands**	*mel A*
—	6	9	**Outcasts of Poker Flat, The**	*dr A*
—	2	7	**Outlaw Women**	*mel-c A*
—	—	3	**Paris Nights (French)**	*mus-com A*
—	4	5	**Park Row**	*dr A*
2	11	3	**Pat and Mike**	*com A*
—	8	2	**Path of Hope (Italian)**	*dr A*
—	8	8	**Paula**	*dr A*
—	3	5	**Perfectionist, The (French)**	*dr A*
2	4	3	**Pictura — An Adventure in Art**	*doc A*
—	5	2	**Prize, The (French)**	*com A*
9	6	1	**Quiet Man, The**	*dr-c AYC*
—	8	2	**Rainbow 'Round My Shoulder**	*mus-com-c AYC*
—	9	6	**Red Ball Express**	*war-mel AYC*
—	—	12	**Red Planet Mars**	*sci A*
—	4	6	**Red Snow**	*war-mel AYC*
—	5	2	**Ring, The**	*soc-dr AY*
—	—	3	**Roaring City**	*dr A*
1	5	—	**Rose Bowl Story, The**	*dr-c AYC*
—	2	5	**Rough, Tough West, The**	*mus-wes AYC*
—	4	10	**San Francisco Story, The**	*mel A*
—	3	—	**Savage, The**	*mel-c A*
1	11	6	**Scaramouche**	*adv-c A*
—	3	14	**Scarlet Angel**	*mel-c A*
—	2	4	**Sea Tiger**	*cri-mel A*
—	3	2	**Secret Flight (British)**	*war-dr A*
—	—	5	**Secret People (British)**	*cri-mel A*
—	7	9	**She's Working Her Way Through College**	*mus-com-c A*
1	8	8	**Skirts Ahoy!**	*mus-com-c AYC*
—	1	2	**Sky High**	*com AYC*
—	—	8	**Sky is Red, The (Italian)**	*dr A*
2	6	3	**Snows of Kilimanjaro, The**	*dr-c A*
—	6	4	**Somebody Loves Me**	*mus-com-c A*
—	4	7	**Son of Ali Baba**	*adv-c A*
1	6	4	**Son of Paleface**	*mus-com-c A*
—	8	1	**Sound Off**	*mus-com-c AYC*
—	3	5	**Spider and the Fly, The (British)**	*mys-mel A*
—	—	3	**Stage to Blue River**	*wes AYC*
—	1	5	**Stolen Face**	*dr A*
2	10	5	**Story of Will Rogers, The**	*biog-c AYC*
—	4	4	**Strange Ones, The (French)**	*dr A*
—	2	9	**Strange World**	*mel A*
2	9	2	**Stranger in Between, The (British)**	*dr A*
—	2	4	**Strollers, The (French)**	*dr A*
1	13	3	**Sudden Fear**	*mel A*
—	5	—	**Target**	*wes AYC*
—	5	3	**Tarzan's Savage Fury**	*adv AYC*
—	—	3	**Texas City**	*wes AYC*
—	6	6	**Thief of Damascus**	*adv-c A*
—	—	17	**Three for Bedroom C**	*com-c A*
—	2	6	**Three Sinners (French)**	*dr A*
—	3	1	**Thundering Caravans**	*wes AYC*
1	9	2	**Tomorrow is Too Late (Italian)**	*dr A*
—	—	3	**Train of Events (British)**	*dr A*
—	4	—	**Turning Point, The**	*cri-mel A*
1	6	3	**Under the Paris Sky (French)**	*dr A*
—	7	4	**Untamed Frontier**	*wes-c A*
—	—	5	**Untamed Women**	*mel A*
—	—	4	**Volcano (Italian)**	*dr A*
—	2	1	**Wagon Team**	*wes-c AY*
—	3	3	**Wagons West**	*wes-c AYC*
1	7	7	**Wait Till the Sun Shines, Nellie**	*dr-c A*
1	12	4	**Walk East on Beacon**	*mys-mel AYC*
—	1	5	**Wall of Death (British)**	*mel A*
2	10	6	**Washington Story, The**	*dr AYC*
2	3	—	**Water Birds**	*doc-c AYC*
2	12	4	**We're Not Married**	*com A*
2	8	5	**What Price Glory?**	*mus-war-dr-c A*
1	13	2	**Where's Charley?**	*mus-com-c AYC*
—	7	8	**White Corridors (British)**	*dr A*
—	4	11	**Wild Heart, The**	*dr-c A*
—	1	5	**Wild Horse Ambush**	*wes AYC*
—	4	2	**Wild Stallion**	*wes-c AYC*
1	10	5	**Winning Team, The**	*biog AYC*
—	6	7	**Without Warning**	*cri-mel A*
—	5	7	**Woman of the North Country**	*mel-c A*
1	9	2	**World in His Arms, The**	*mel-c AYC*
—	—	8	**Yank in Indo-China, A**	*war-mel AYC*
—	2	3	**Yankee Buccaneer**	*adv-c AYC*
—	6	2	**You Can't Beat the Irish (British)**	*com A*
—	8	3	**You for Me**	*com A*
—	3	6	**Young and the Damned, The (Mexican)**	*dr A*

The Consumers' Observation Post

(*Continued from page 4*)

were usually held in place with a rubber adhesive. The researchers were able to establish that it was one of the ingredients in rubber adhesives, monobenzyl ether of hydroquinone, an antioxidant, that was the most frequent cause of irritation. Some patients were also sensitive to other rubber antioxidants and accelerators used in the adhesives of shoes.

* * *

THE FOOD INDUSTRY should pre-test all new chemicals extensively before using them in food. That is the considered opinion of R. C. Newton, vice president of Swift & Co., in charge of research, who is in favor of an amendment to the present Food, Drug, and Cosmetic Act that would require the manufacturer proposing to use a new chemical to prove that it is harmless. Dr. Newton would make obligatory a series of tests on animals and human beings to establish whether a new substance was toxic. The present law calls for the Food and Drug Administration to prove that a substance is injurious to human beings before the use of that substance can be prohibited.

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RIBBED FABRICS FOR WOMEN'S DRESSES continue to be fashionable this fall. There is a wide variety, including bengaline, grosgrain, ottoman, faille, and novelty ribbed fabrics. Some 22 fabrics of this type, ranging from the finest or thinnest rib weave constructions to the heaviest and widest rib fabrics, were examined by the Research Department of the National Institute of Cleaning and Dyeing recently to determine their performance in dry cleaning. Excessive shrinkage was found in 15 out of 22

fabrics that were "wetcleaned," but in dry cleaning the amount of shrinkage was negligible, except in six of the fabrics studied. Of these six, shrinkage was negligible in the first dry cleaning, but became progressive and was excessive after five dry cleanings. Since shrinkage of some of the wider ribbed fabrics such as grosgrain, bengaline, and ottoman may be excessive, women who wish to make certain that their dresses or suits of such ribbed fabrics are wearable after cleaning will be wise to get a guarantee from the store at which the original purchase is made that the garment may be returned for a full refund if it shrinks excessively in dry cleaning.

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NEW OR NEWLY TESTED:

Squeeze 'N Wash (Anro Products, 4612 N. Ravenswood, Chicago), $1.95 from mail-order houses such as Breck's of Boston (Boston 10, Mass.). This gadget consists of a 6-oz. plastic bottle, fitted with a hollow brush top of nylon bristles that is easily removed by turning and pulling. A liquid detergent such as Glim or Joy is poured into the bottle up to a certain mark and then water added to fill. The detergent is released in washing dishes or the sink or toilet bowl by gently squeezing the sides of the bottle until the mixture flows through the center of the brush head. The device minimizes direct contact of the detergent with the hands and is particularly useful for scrubbing greasy pans or grills, and for cleaning soap-and-water scum from the sink and bathtub. It is considered a convenient gadget in any household where the homemaker uses a liquid synthetic detergent (soapless cleanser) and wishes to reduce contact of the hands with such detergents, which are often notably drying in their effect on the skin.

Phonograph Records

BY WALTER F. GRUENINGER

Please Note: In the ratings AA indicates highly recommended; A, recommended; B, intermediate; C, not recommended. Although nearly all new releases of serious music are heard, space narrows comment, generally, to items which merit high ratings.

Beethoven: *Concerto in D Major.* Ruggiero Ricci (violin) with the London Philharmonic Orchestra under Boult. London LL 562. $5.95. A rare balance of lyric and dramatic playing make this an arresting performance of a notable violin concerto. Ricci is well supported by the Londoners. The fidelity would rate AA if it were not for a patch in the slow movement from approximately 4 minutes 45 seconds from the beginning to 9 minutes 5 seconds. Here the pitch is higher and the instruments less brilliant.
Interpretation AA
Fidelity of Recording A

Beethoven: *Concerto No. 5* ("Emperor"). Horowitz (piano) with the RCA Victor Symphony Orchestra under Reiner. RCA Victor LM 1718. $5.72. Most brilliant, hard hitting performance of the piano part on records. Yet there are some who may prefer the mighty "Emperor," more mellow, less glassy. Fine orchestral support, crisp, bright recording.
Interpretation A
Fidelity of Recording AA

Brahms: *Symphony No. 4.* NBC Symphony Orchestra under Toscanini. RCA Victor LM 1713. $5.72. Brahms' great last symphony. Full, round recording with good acoustic range but slightly less commendable dynamic range.
Interpretation AA
Fidelity of Recording AA

Enesco: *Roumanian Rhapsody No. 1* & **Smetana:** *The Moldau.* Los Angeles Philharmonic Orchestra under Wallenstein. Decca DL 4012. $2.50. Far famed, short orchestral pieces (22 minutes) played with appropriate gusto and recorded brilliantly.
Interpretation AA
Fidelity of Recording AA

Griffes: *Poem.* Baker (flute) and Chamber Orchestra under Saidenberg & **Foote:** *A Night Piece.* Baker (flute) with String Quartet. Decca DL 4013. $2.50. Seventeen minutes of restful, pleasing music by Americans of an earlier generation, featuring the excellent flute playing of Julius Baker. Fine recording.
Interpretation AA
Fidelity of Recording AA

Haydn: *Arianna a Naxos* and *English Songs.* Jennie Tourel (mezzo). Haydn Society L 2051. $5.95. The dull, endless cantata is not enlivened by the occasionally graceless playing of Ralph Kirkpatrick on a sepulchral sounding recreation of a late 18th century piano. Miss Tourel sings the cantata and the songs beautifully with the exception of the Pastorale Song, "My Mother Bids Me Bind My Hair."
Interpretation A
Fidelity of Recording AA

Lehar: *The Merry Widow.* Kirsten, Rounseville, Warner, Harvuot, etc., under Engel. Columbia ML 4666. $5.45. Fine voices have been assembled to record this gay work. But it comes through like a flashy Broadway showpiece, lacking the élan of a Viennese production. Well recorded.
Interpretation B
Fidelity of Recording AA

Mozart: *Requiem.* Salzburg Festival Performance Group under Messner. 4 sides, Remington R 199-96. $4.98. The last, unfinished work of Mozart — a mighty one. Recorded at an actual performance. Obviously some parts might have been done better on a second try but I judge them to be few. The soloists — Gueden, Anday, Patzak, Greindl — are acceptable, with the contralto Anday pulling down the average. Chorus and orchestra are good. At times the direction drags. The recording of the chorus varies from very good to mediocre. Soloists are much too loud in relation to orchestra and chorus. And there are the usual audience coughs.
Interpretation A
Fidelity of Recording A

Purcell: *Dido and Aeneas.* Flagstad with members of the Mermaid Theatre Company, London, under Jones. RCA Victor LH HMV 1007. $5.95. In this 17th century operatic masterpiece Flagstad is magnificent as Dido (a contralto role), though careful on the high notes. But not every principal member of the cast sings with equal conviction and skill and enunciates as clearly — notably the German soprano, Elizabeth Schwarzkopf. Yet the general level of the principals is high. Sensitive choral and orchestral work and conducting. Acceptable recording.
Interpretation A
Fidelity of Recording A

Rubinstein: *Concerto No. 4.* Levant (piano) with the Philharmonic-Symphony Orchestra of N.Y. under Mitropoulos. Columbia ML 4599. $5.45. Seldom heard but effective concerto akin to Tchaikovsky and Mendelssohn. The performance has been well prepared, though it's too heavy. The recording is wide range and rich.
Interpretation A
Fidelity of Recording AA

Strauss: *Waltzes from Der Rosenkavalier* & **Liszt:** *Les Préludes.* INR Symphony Orchestra (Brussels) under André. Capitol L 8173. $3.98. Charming waltzes backed up by Liszt's bombastic tone poem give André a chance to show his skill in contrasting styles. He comes through with flying colors. Bright recording that would benefit by a little more bass, clarity and wider range — particularly in the Liszt.
Interpretation AA
Fidelity of Recording A

Suk: *Serenade for Strings* & **Smetana-Byrns:** *Selections from Bohemian Dances Suite.* Harold Byrns Chamber Symphony under Byrns. Capitol P 8174. $4.98. Pleasing, relaxing, melodic music expertly performed and recorded.
Interpretation AA
Fidelity of Recording AA

Tchaikovsky: *Symphony No. 5.* Minneapolis Symphony Orchestra under Dorati. Mercury MG 50008. $5.95. Impressive, animated, but not exaggerated performance. Remarkably clear, brassy recording.
Interpretation AA
Fidelity of Recording AA

Tchaikovsky: *Symphony No. 6.* Philadelphia Orchestra under Ormandy. Columbia ML 4544. $5.45. Ormandy conducts the popular "Pathetique" straightforwardly and with assurance. Clear, limpid, rich recording.
Interpretation AA
Fidelity of Recording AA

Margarete Klose Song Recital (contralto). Urania URLP 7053. $5.95. One of Europe's topflight contraltos sings in German generally unfamiliar songs by Grieg, Pfitzner, Jensen, Strauss, Cornelius. Her voice is big, rich, expressive. Voice very well recorded, balance with the piano (which wavers occasionally) favors the voice.
Interpretation AA
Fidelity of Recording A